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DEONTOLOGY, OR THE MORAL OBLIGATION OF MEDICINE

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CHICAGO

It is difficult to state just when medicine first assumed a definite status in human affairs, but its origin may be traced to the primal sympathy of man with man. Sympathy is the quality of being affected by the state of another with feelings corresponding in kind. Sympathy is one of the most effective of the emotions and, like all emotions, is an antecedent of desire. Emotion is an attribute of mankind and in a primitive form is found even in animal life. With the advent of the emotions of sympathy and pity, the heart of man was inspired with a desire to relieve human suffering and pain. Desire has an object in view which is the end to be attained; desire therefore may be said to be the impulse, the motivating power, or the spark that starts action.

In the mind of primitive man, emotions and desires were quite simple in their nature and were concerned almost entirely with the necessity of self-preservation; they lacked, therefore, the more complex and highly intellectual character of modern civilization and the present advanced state of knowledge.

Having little or no knowledge of the phenomena of nature with which he was constantly surrounded, man sought an explanation in the supernatural. All objects were supposed to be peopled with invisible spirits, with a controlling influence for good or for ill which had to be invoked or propitiated. It was thought that all nature was filled with a mysterious force which inhabited persons as well as things. To this mysterious force was assigned the nature of an invisible spirit, and a distinction was made between the spirits that exerted a benign and those that exerted a malign influence. The subtle force that emanated from the benign spirit brought health and happiness and success and was called "mana," while the malign force emanating from the evil spirits was destructive to health, life and property and was called "miasma."

The influence of the good spirits, the benign mysterious force or mana, was invoked either by supplication or by various forms of sorcery, while attempts were made to propitiate or conciliate the malign force, or miasma, by incantations and the utterance of magical words for enchantment or exorcism. In order that the tribe or group should be successful in the hunt or war or in the daily affairs of life, it was necessary that it be in touch with the good force or mana and at the same time shun the miasma, and this was supposed to be accomplished by having in the tribe one or more members who kept themselves so absolutely aseptic and pure that they could have access to mana without danger. These men became priests, and priests and physicians were often one.

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As disease was supposed to be due to miasma, or to the possession of the body by an evil spirit or demon, these priests sought to exorcise the disease by magical incantations. In this way medicine and religion may be said to come in contact or to have had a common origin. Gradually these mysterious forces were deified, and innumerable gods arose possessed of supernatural powers, each tribe often having its own particular god or gods.

Medicine and religion now parted company. Those who followed medicine devoted themselves to the study of disease and the relief of human suffering, while those who followed religion devoted themselves to ritualistic forms of worship of their various gods. The priests by the development of an emotional culture instilled into the benighted minds of the people the belief that they were able to invoke or propitiate the gods, and this emotional culture became the greatest force in maintaining unity in the tribe or nation.

Medicine had a much more difficult task before it in the relief of pain, suffering and disease. In an age when every object in nature, every incident in life, seemed full of deified presences, medicine was dominated by a belief in a pantheon of gods, both great and small, who were held responsible for all things mysterious.

Since no knowledge of the fundamental sciences on which an intelligent conception of disease must ever rest was in existence, it is not surprising that the resources of the physician were limited to magic, sorcery and incantations to drive out the evil spirits that had taken possession of the body, or by supplications to invoke the help of the good gods in special diseases.

Knowledge in its essence consists of conditioned reflexes and was of slow acquisition by man. Without a knowledge of human anatomy and physiology, medicine could make but little progress. The study of human anatomy was greatly hindered by a fear of that mysterious force which was called miasma and which was destructive to health and life. "This was a subtle force that radiated from certain objects and persons bringing disease, death, bad luck and drought to all whom it touched. It was directed against all things and people associated with death such as the corpses

* President's address before the American Medical Association at the Eightieth Annual Session, Portland, Ore., July 9, 1929.

of men and animals and blood" (Denison). This superstition was so powerful that, even after all these centuries of supposed enlightment, there are people who faint at the sight of blood and who fear to touch a dead body.

Even at a later age, religious prejudice placed a ban on the dissection of the human body; dissection was often prohibited by law, so that only a few who were undismayed by religious fear surreptitiously dared to touch a human corpse for the purpose of studying anatomy.

How imperfect and untrained were the powers of observation of these early physicians is well shown by their fanciful and fantastic drawings of anatomy as they supposed it to be. The liver from its great size, its richness in blood, and its location in the center of the body was regarded as the most important organ. It was thought to be the seat of life, of the mind and even of the soul. As the seat of life, or soul, the liver became the divine element in the sacrificial offerings and was studied with great care, its markings and lobes playing an important part in divination.

Closely following on the art of divination came a belief in the supposed influence of the heavenly bodies on man's welfare, and astronomy and astrology were eagerly studied both by physicians and by priests. The mysterious forces that ruled the sun, moon and planets were the same that controlled the affairs, the disposition and the fate of man. The reading of the horoscope was practiced not alone by quacks and charlatans but also by philosophers and priests.

Under the influence of the remarkably constructive imagination of the Greek philosophers, who were often physicians as well, astrology degenerated into superstition, a superstition that has persisted even to the present day. In Greece, medicine became still further separated from religion and the priests and a closer relation was established between medicine and philosophy; in fact, many of the great philosophers were physicians. The great impression that Greece made on medicine was due to the philosopher physicians. It was not so much the wonderful discoveries in medicine they made as it was the introduction of philosophical reasoning and vivid imagination that led to constructive thinking. It was one of these great philosopher physicians, Empedocles, who introduced the theory of the four elements fire, air, earth and water, of which in varying quantities all bodies were supposed to be composed. It was the existence of these four elements in due equilibrium in the body that constituted health, while disease consisted in a disturbance of this relation.

Following this theory of the four elements was that of the four essential qualities of heat and cold, moisture and dryness, which formed the basis of the humoral theory of disease, which dominated medicine for many centuries. Notwithstanding the fact that these theories were erroneous, they marked a great step forward since in them is found an attempt to analyze matter and to attribute the cause of disease to other than the mysterious influence of malign deities or evil spirits. The Greeks were the first to transcend mysticism, superstition and ritual and to grasp the conception of medicine as an art based on accurate observation and to recognize that diseases are only a part of the processes of nature.

Greek medicine as expounded by Hippocrates and later by Galen ruled the practice of the art for hundreds of years, but during this time, owing to a lack of knowledge of the fundamental sciences on which sound practice must always rest, little progress was made. Although Galen gave public lectures on anatomy, he lamented the fact that religious prejudice had prevented him from ever having dissected a human body, his anatomy having been learned largely from dissections of pigs and apes.

With the fall of Rome came the darkest page in the history of civilization. The European world became obsessed by a religious fervor that diverted men's thoughts from all things related to the physical or material body and caused them to be concerned with death, judgment, heaven and hell, and the salvation of the soul.

This period of religious prejudice and intolerance, which lasted for nearly a thousand years, left a trail of blood following in the wake of the numerous crusades and was marked by deeds of man's inhumanity to man done in the name of Christianity. Medicine, as practically all other sciences, languished during these dark ages and made almost no progress. The land was overrun by traveling quacks and charlatans, who preyed on the credulity and ignorance of the people. What was left of real medicine fell into the hands of the monks, who kept the flickering light burning.

It is a curious and remarkable fact that, while Christianity was forging its way from the West to the East, the vast riches of the Greek literature probably would have been lost to the world had it not been for the barbarian hordes of Arabia. The Arabs, spurred on by a firm belief in the power of their great god Allah, started out to conquer the world. Egypt was the first to fall before them. Here they found in the great libraries of Alexandria the marvelous writings of the Greeks. Inspired by a desire for knowledge, they translated many of the works of the Greek philosophers and physicians into Arabic, and the libraries of Alexandria were burned.

Before the Arabs were stopped in their mad rush they had conquered all of northern Africa, Greece, Spain and Sicily.

In the thirteenth and fourteenth centuries the little spark of medical knowledge that had survived the dark ages was fanned into a flame in southern Italy, and there arose a great medical school that became famous. With the advent of this school may be dated the renaissance of medicine.

With the increase in the knowledge of anatomy, physiology and chemistry that came from the Arabs, medicine made slow progress, but for several centuries the real cause of disease remained a mystery until the epoch-making works of Pasteur, Lister and Koch were given to the world. From this time on medicine assumed the dignity of a real science and it made more progress during the following twenty-five or thirty years than it had made in as many centuries next preceding.

The purpose of this brief and sketchy review of the history of the evolution of medicine is to bring to mind anew the great struggle it had to undertake before it could emerge from the darkness of ignorance into the light of modern science. It survived the magic and incantation of the sorcerers, the ritualism of the priests, the prejudices, intolerance and tabus of religion, the superstitions of the astrologists and the divinators, the fraudulent representations of the quacks and charlatans, and last but not least the almost innumerable pathies, isms and cults that sprang up to prey on the people.

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THE SCIENCE OF MEDICINE

The arch of the science of medicine may now be completed. The first stone of the arch is anatomy, beginning in Alexandria and carried forward by the Arabs and Italians. The second is chemistry, born in Egypt and nourished by the Arabs. The third is physiology, beginning with the pneuma of Galen, the spiritus of the Latins, which lingered long until the knowledge of anatomy and chemistry led to an understanding of function. Fourth may be mentioned pathology, starting with the humoral pathology of the Greeks and ending with the cellular pathology of Virchow. The last, or keystone, of the arch is bacteriology, developed by the genius of Pasteur, Lister and Koch. On this solid arch of the science of medicine is builded the art of practice.

The practice of medicine may be said to consist of the making of a diagnosis and the proposal or execution of measures or means for the prevention,, relief or cure of the suffering, ailment or deformity of another, either physical or mental. Any method or system of practice not based on this solid foundation of science cannot be otherwise than fallacious.

Medicine has played a most important rôle in the evolution of civilization. As marvelous and important as have been the discoveries and inventions of the physical sciences, the common conveniences that would result from their loss would be small indeed compared with those which would result from the loss of modern medical science. Civilization never could have advanced to its present state of development had it not been for medical science, and if the world were to be deprived of the benefit and protection of medical science the great cities would be depopulated by disease and pestilence, and civilization would be set back hundreds of years.

Civilization of man in years is as but yesterday, while his instincts and emotions have dwelt with him for untold ages. While education has enabled man to subjugate his instincts and beliefs to reason, there are still those who are governed and controlled by superstition and primitive instincts.

Superstition is a belief founded on irrational feelings. These feelings exhibit the elements of fear and of reverence for the occult and the supernatural. All superstitions are founded on ignorance and are characterized by beliefs in omens, signs and charms, or false religious rites, or an undue proneness to accept the improbable and absurd claims of medical healers. Medical healers of one kind or another have flourished from the earliest times down to the present day: exorcisers of devils and demons, priests and saints with their ritualistic formulas, sorcerers with their magical incantations, meserists and hypnotists, the king's touch, quacks and charlatans of all kinds, and last but not least faith healers, such as Dowie, Eddy and Coué. "The strength of all such healers lies in the faith of their disciples; so long as confidence is supreme, treatment brings peace and security even though death results" (Haggard). Many of the so-called systems of medicine have bloomed and flourished for a day only to fade before the inexorable truths of medical science. As fast as one fad has had its day, another rises to take its place. All of them, however, have the same basic principle, that of faith, the same as existed centuries ago in the magic or ritualistic formulas of the ancient priests.

The influence of the mind on the bodily activities is not to be denied or ignored, but the danger consists of relying on it in the presence of actual disease which it cannot benefit and which, if not properly treated, may result disastrously to the patient. The practice of medicine, therefore, should be in the hands only of those who are qualified by having a comprehensive knowledge of the fundamental sciences.

Attention has already been called to the important rôle that medicine has played in making possible man's present state of civilization. That it was rather slow in making itself felt is due to the fact that man's primitive instincts and desires had to be satisfied first, and that these had to be developed and elaborated before sufficient knowledge could be acquired to permit scientific medicine to come into being.

The commercial world is now recognizing the great value of medicine in the industries and to human welfare. Commercial, industrial and agricultural pursuits cannot thrive and maintain progress without the continued support of medicine. Man has not yet reached a state of material development that will permit him to harness the forces of nature and bid them to do his will. Man power and brain function are still necessary to human existence, and the essential factors in the maintenance of these is health. The great commanders of industry, the great leaders of nations, have come to realize more than ever before that progress and prosperity depend on the health of the people and that health can be secured and maintained only by the active cooperation of the medical profession. It is a realization of this general truth that induced industries to install medical departments to care for injured and sick employees. Not only is the provision of such a medical service by the industries a humane act, but it has been the means of adding millions of dollars to the industries and to the employees by rehabilitating the injured and by preventing or diminishing time lost on account of illness.

As contributing to the health and happiness of mankind, medicine occupies preeminently the first rank. It practically has banished from the intelligent world such dread diseases as the plague, typhoid, smallpox, cholera, yellow fever and tetanus; it has reduced the mortality from tuberculosis 60 per cent; it has cut the death rate in children under 5 years of age in two several times and has added fully ten years or more to the average life expectancy. All these have been accepted by the people with an equanimity amounting almost to indifference. Little thought is given to the thousands of men whose lives have been spent and, indeed, often sacrificed in toil and labor endeavoring to wrest from nature the great truths that have made these living conditions possible.

Has it ever occurred to the people that not a single truth has been added to the science of medicine by the hordes of quacks and charlatans, by the faith healers, by the magic venders, by the drugless practitioners and cultists, who by an advertising propaganda have spread broadcast tales of their marvelous knowledge and skill? It is not difficult to understand how uneducated and unintelligent persons with primitive beliefs and superstitions in the mysterious and occult can be led astray by such claims, but it is quite a curious psychologic phenomenon when those who are otherwise intelligent become obsessed by an unreasonable credulity in matters concerning their health.

In attempting to find a solution for this curious phenomenon, one is forced into a discussion of the subject of civilization. Civilization is a term in common

use but difficult to define accurately in words. It is a stage in the evolution of man characterized by the development of his intellectual and cultural faculties. There is no sharp line of demarcation, however, between the savage and civilized man, as the change is a gradual one. In the progressive evolution of man, not all of his faculties have developed at a uniform rate. Therefore, practically all stages of civilization are found existing at the same time, the minds of a few representing the highest point of development while that of the masses scale down to the lowest. It is those in whom the primitive instincts and emotions and desires are not yet subjugated by reason who forsake scientific medicine for the mysteries of the cultists and the innumerable varieties of faith healers.

The intellectual, reasoning, cultural, ethical and emotional faculties do not all develop uniformly even in the same individual, and it is this variation in the growth of the faculties that creates character and individuality. One may be highly intellectual and cultured and yet be deficient in his reasoning powers or in his ethical and emotional senses.

ETHICS AND ECONOMICS

Medicine is the first profession in the world to formulate and adopt principles of ethics as a guide to rules of conduct. These principles have withstood the vicissitudes of a changing world for thousands of years. They are as sound in principle today as they were in the beginning, and they have been a constant and ever-present inspiration to the profession. These principles were dictated in a spirit of humanity for the benefit and protection of the sick and suffering who placed themselves in the care of physicians.

The medical profession has been chided of late by the commercial world for its adherence to its principles of ethics. It is meet to mention, however, that the ethical and ideal faculties of the commercial world have been held in check by the superdevelopment of the faculty of cupidity, which seems to justify the means to the end. It is chiefly the press that has raised its voice the loudest against the principle of medical ethics that places a tabu on advertising by the physician. It is readily admitted that the lifting of the ban against advertising by the physician would result in a great financial gain to the press, but at the expense of demoralizing the profession and removing the most powerful barrier that now protects the public against the quack, the charlatan and the faker. Ethics is concerned with principles that help to determine rules of conduct. Medical ethics has for its purpose the protection of the people and the creation of an idealism in the profession. Divested of all excess verbiage, it means that the conduct of physicians at all times shall be honest, honorable, fair and just to all concerned, the patient, the public, the profession and to one another. The terms "honorable," "fair" and "just" do not admit of exact reasoning but must be judged by the consensus of prevailing public opinion based on a knowledge of all the factors involved.

Attention has already been directed to the value of medicine as an essential factor in the development of the present state of civilization. The economic value of medical service to the individual may now be discussed briefly. By economics is meant the science that investigates the prodution, distribution and consumption of wealth, or the material means of satisfying human desires. The terms "wealth" and "value" are frequently used in connection with economics; therefore one should have a clear conception of their meaning. The simplest conception of wealth perhaps is the power of one commodity to command other commodities in exchange, while value refers to the ratio of exchange. Commodities tend to exchange in proportion to the cost of production or the toil and labor that enters in. This all applies to concrete commodities; but medical service is not a commodity in the sense here used and therefore it has no intrinsic value. Its value is dependent on its utility or its fitness to satisfy human needs or desires. There is a difference between a need and a desire. The former may be a necessity for continued existence while the latter may but contribute to one's pleasure or comfort. There are degrees, therefore, of value, depending on the character and the necessity of the services rendered.

There is another factor, however, which must always be taken into consideration in placing a value on medical service, and that is the question of ethics. Ethics has decreed that medicine is a humane profession and that the physician must deal justly and fairly and equitably with all. The governing factor, then, in the determination of the value of medical service or the fees charged by the physician must be the economic status of the patient.

DEONTOLOGY, THE SCIENCE OF MORAL OBLIGATION AND DUTY

This leads to the final point of my theme, which is the subject of deontology, or the science of moral obligation and duty. I have endeavored to show not only that the knowledge given to the world by medical science has been instrumental in enabling civilization to reach its present state of development, but also that without a continuance of this knowledge civilization would crumble and the world be set back hundreds of years. The medical profession alone is in possession of this knowledge, and the qualified physician alone is competent to care for the sick. The practice of medicine, therefore, is a natural monopoly in the hands of the profession. Every monopoly, whether it is a natural or an artificial one, has a distinct obligation to the public to make its services available to all the people. The obligation of the profession in this respect is absolute since there is none other to whom it can be delegated. As the profession is an essential factor in the maintenance, progress and prosperity of the social organization, society owes an obligation and duty to it to enable it to progress and prosper in like manner. The moral obligation, therefore, becomes a reciprocal one.

Medicine differs from all other lines of human endeavor in that it deals with life and health, with human suffering and ills, which give to it a humanitarian purpose that has been the most cohesive force binding the profession together in a united group, and this cohesive force has its origin in the emotions. Emotions are fundamental attributes of the human mind; but if the unity of a group depends on the permanent action of an emotion, some means must be created that will cause the minds of its members to react to the emotion in the definite manner desired. The means to this end are found in the principles of ethics and the noble purposes adopted and proclaimed by the American Medical Association. These constitute an emotional culture which should enter into and form a part of every physician's life. The American Medical

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Association is the one organization that every physician who lives and honors his profession should be united with, and its ethical principles should be emotionalized as the only means of giving reality to its ideas and its ideals.

25 East Washington Street.

SPONTANEOUS SUBARACHNOID HEMORRHAGE *

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PHILADELPHIA

Spontaneous rupture of the meningeal blood vessels has long been considered a rather uncommon condition, but in reviewing the medical literature we find that many cases have been reported both in this and in foreign countries. In the past few years we have had the privilege of seeing a number of patients suffering with spontaneous subarachnoid hemorrhage, all of them in hospital services. Our purpose in this paper, therefore, is to relate our experience with the subject, to give some references to the literature, to enumerate some of the more important etiologic factors, to recite the predominant symptoms and to formulate some rules for differential diagnosis. In addition, some things will be said regarding prognosis and treatment.

REPORTS IN THE LITERATURE

The oldest and perhaps one of the most interesting reports on the subject was made by Bramwell [1] in 1886. In the study of his cases three of the most important etiologic factors are discussed; namely, calcareous degeneration, aneurysm of the cerebral vessels and hemophilia without change in the vessel walls.

In more recent years, valuable contributions have been made to this subject by Leopold,[2] Neal,[3] Cushing,[4] Richardson,[5] Hassin [6] and others. Fearnsides,[7] Smith [8] and Symmonds [9] have discussed the subjects of cerebral aneurysms particularly, and considered them carefully as an etiologic factor in the production of meningeal hemorrhage. Ehrenberg,[10] who is one of the foremost authorities on the matter, has studied it in great detail. Munck [11] has discussed it most carefully in connection with the medicolegal aspects. The eye symptoms have been described by Goulden and Riddoch,[12] Calhoun [13] and others.[14]

CAUSATION

For spontaneous hemorrhage to occur there must undoubtedly be some weakness in the blood vessel wall, which may be either congenital or acquired. As there are many causes producing changes in the walls of the peripheral blood vessels, the same causes must be considered in producing changes in the meningeal vessels. A great deal has been said regarding intracranial aneurysms; they undoubtedly occur and perhaps more frequently than we realize. The causes of these aneurysms appear to be more numerous than is the case in other parts of the body where syphilis and trauma have long been considered the outstanding etiologic factors; and, while these are factors in causing aneurysms of the meningeal vessels, undoubtedly there are others. Embolism, which is quite common, has been frequently mentioned. Mycotic aneurysms have also been referred to by Wolferth and Stengel.[15] Some have mentioned the inherent weakness of these blood vessel walls in certain individuals. The acute infections undoubtedly play a part, especially meningitis and acute rheumatic fever.

It is our opinion that the acute infections produce meningeal hemorrhages by the occlusion of many small vessels with infectious emboli and in this way weaken the wall of that vessel through a degenerative process, thus leading to a hemorrhage. Since many of these small vessels may become occluded many small hemorrhages may be produced, a sufficient number to render the spinal fluid distinctly bloody. One will readily recall the numerous petechial hemorrhages seen over the body in cases of meningococcic meningitis. These hemorrhages are probably produced by occlusion of the small vessels and wall degeneration from the infectious emboli.

Some writers have thought that the red cells gained access to the cerebrospinal fluid by a process of diapedesis.

Aside from the causes mentioned there is the degeneration that occurs in the vessel wall which is commonly classed as arteriosclerosis. While some of our cases have shown undoubted evidence of arterial disease, many of them have not shown any sign of this condition until the meningeal hemorrhage was discovered.

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SYMPTOMS

The onset in subarachnoid hemorrhage is sudden as a rule; it has certainly been so in our series. The mentality of the person is disturbed and its irregularity may take the form of somnolence, stupor, delirium or coma. Consciousness may be completely lost and all stimuli may fail to arouse the patient. The neck is invariably stiff, though it does not become so immediately and Kernig's sign is practically always present. The pupils may be small, unequal or dilated. Occasionally one or more of the cranial nerves is involved and there may be partial or complete hemiplegia; the rule, however, is for the face and arm to show more involvement than the leg, because the hemorrhage is more often basilar in origin, and the face and arm centers, being lower down on the cortex, would be first involved by the pressure of a blood clot.

The tendon reflexes are quite often absent although they may be decreased, normal or in some cases increased. Babinski's toe sign is often present on the hemiplegic side, if such exists, and occasionally it has been seen on both sides. Headache is a prominent symptom and is usually severe, and vomiting, often present, is sometimes persistent. Pain or pressure is occasionally noted at the site of the hemorrhage. The mental symptoms last from a few days to a few weeks, and the process of returning to normal is gradual. The pulse and respiration may be slow or rapid depending on the amount of intracranial pressure and shock, and a moderate rise of temperature frequently exists. The spinal fluid is bloody and the pressure increased. The eyegrounds often present marked changes in severe cases and the optic nerves show choking, which slowly recedes; in other cases the retinal vessels are markedly sclerosed and often numerous hemorrhages are seen. Leukocytosis as described by Musser [16] has been noted in some of our case records. Glycosuria and hyperglycemia have been found occasionally, but these have disappeared with spinal drainage.

REPORT OF CASES

CASE 1.—A white woman, aged 50, suddenly became dizzy and sank to the pavement as she was leaving church. She was picked up and brought to the hospital in an unconscious condition. She regained consciousness in twenty-four hours but was restless and confused. She suffered from intense headache which could be relieved only with morphine. Meningeal symptoms were marked and there was a paresis of the right sixth nerve. There was a moderate rise in temperature during the first few days. The eyegrounds showed a sclerosis of the retinal vessels and a hemorrhagic retinitis in the right eye. All the tendon reflexes were absent at first but became increased during convalescence.

The heart was enlarged to the left and the blood pressure was 170 systolic and 110 diastolic. The blood sugar was 160 and the blood urea was 16. The urine showed a trace of albumin with a few granular and hyaline casts. The blood Wassermann reaction was negative. The spinal fluid was bloody and under increased pressure.

The patient made a complete recovery and was discharged from the hospital in seven weeks. She has remained well for three years but the high blood pressure has persisted.

CASE 2.—A rather obese white woman, aged 43, was suddenly seized with a severe pain in her head as she raised herself up in bed, where she was forced to remain on account of the headache. She was brought to the hospital one week later. She vomited once on the first day of her illness. She was somnolent and dull mentally but could be rather easily aroused. Her speech was slurring and indistinct. The eyes showed horizontal nystagmus, retinal hemorrhages and bilateral choked disks.

Meningeal symptoms were absent but she was not observed by us until a week after the onset of the illness. The temperature on admission was 101 F. but gradually came down to normal within three or four days. The blood pressure was 190 systolic and 90 diastolic. The Wassermann reaction of the blood and spinal fluid was negative. The urine showed a trace of albumin, and granular and hyaline casts. The blood sugar was 200, the urea 16 and the creatinine 1.3. The spinal fluid, taken nine days after the onset, was yellow and under increased pressure.

The patient was discharged from the hospital in eighteen days, apparently recovered. She was examined six months later and, while she did not have any complaints, her blood pressure was 230 systolic and 130 diastolic.

CASE 3.—A white woman, aged 58, was suddenly seized with a severe headache, which lasted for four days, when she had a generalized convulsion. On this day she was admitted to the hospital. She continued to complain of headache but slept most of the time; however, it was fairly easy to arouse her from this somnolent state. She would then answer questions promptly and intelligently, although dysarthria was present. During this time her mentality was good, but as soon as she was left alone she went to sleep. There was a moderate elevation of temperature, and meningeal symptoms were present. The blood pressure was 165 systolic and 100 diastolic. The urine showed a trace of albumin, acetone and a few granular casts. On chemical analysis the blood was normal. Examination of the eyegrounds showed a haziness of the disk margins, the veins were distended and of unusual dark color.

A lumbar puncture done two weeks after the onset of the illness revealed yellow spinal fluid, but apparently it was not under increased pressure. The patient said that she felt better the day after the puncture. She did not complain of headache again and she became less somnolent. She was discharged completely recovered four weeks after admission and has remained well for three years.

CASE 4.—A white man, aged 53 suddenly complained of feeling ill while moving furniture in his apartment. He went to his bed and a few minutes later he was discovered in a stuporous condition. He was brought to the hospital immediately. At the time of admission he was semiconscious but very restless and had to be restrained in bed.

The right side of his face and right arm were paralyzed. Meningeal symptoms were not present, but the temperature ranged from 99 to 102 F. during the first four days of his illness. The tendon reflexes were normal. The eyegrounds showed old retinal hemorrhages in both eyes and the disk margins were blurred. The Wassermann reaction of the blood and spinal fluid was negative. The blood sugar was 200, the blood urea 29 and the creatinine 1.8. The urine showed a trace of albumin. A lumbar puncture was done on the day of admission; the spinal fluid was bloody and under increased pressure. He had four convulsions following the puncture. When he had fully regained consciousness it was discovered that he had a sensorimotor aphasia. In four weeks' time he had regained function of his face and arm on the right side. Full function of speech returned, although a partial word blindness persisted. The patient had been suffering from high blood pressure for a long time, the cause of which we were unable to discover. During a year's observation he had many generalized convulsive seizures and the blood pressure remained persistently high. He frequently had transient motor aphasia. The word blindness did not entirely disappear.

CASE 5.—A Mexican, aged 45, was suddenly stricken with pain in the head while working as a laborer. This was accompanied by vomiting, weakness and marked unsteadiness of gait. He had to be sent to bed immediately and two days later he was brought to the hospital. He lay quietly in bed holding his head and appeared acutely ill. He was stuporous but could be aroused. The pupils were slightly irregular and reacted somewhat sluggishly to light; the right pupil was slightly larger than the left. The pulse was slow, ranging around 60, and the blood pressure was 155 systolic and 85 diastolic. All of the tendon reflexes were increased. The most prominent physical symptom was marked ataxia in all four extremities, being more severe, however, in the lower limbs. The temperature ranged from subnormal to 99 F. on one or two occasions.

16. Musser, J. H., Jr.: The Leukocytes After Hemorrhages, Am. J. M. Sc. **162**: 40 (July) 1921.

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Severe headaches and frequent vomiting were persistent symptoms. The Wassermann reaction of the blood and spinal fluid, and the blood on chemical examination were normal. The eyegrounds showed advanced arteriosclerosis. A lumbar puncture was done on the day after admission and the spinal fluid was bloody; a second lumbar puncture performed a week later showed yellow spinal fluid. The patient recovered completely in three weeks.

We considered that the hemorrhage must have disturbed the cerebellum, causing the ataxia.

CASE 6.—A white man, aged 53, suddenly fell unconscious to the ground after an argument; the length of time of the unconscious state is not known. Headache was severe and persistent and the patient suffered from insomnia. He was confused and disoriented and did not recognize those around him. He was unable to concentrate and it was impossible to retain his attention. He was irritable and easily aroused to anger. He often entertained imaginary persons in his room and once he threatened to jump out of the window. He would often dress himself in the middle of the night thinking it was morning. He could not tell the time.

He had difficulty in walking in the dark, which was overcome when the light went on and he could watch his feet; otherwise his gait was that of a patient with cerebral arteriosclerosis. The heart showed a soft systolic, apical murmur and the blood pressure was 160 systolic and 90 diastolic. The tendon reflexes were absent at first but returned as he improved. His speech was slurring and indistinct. The eyegrounds showed advanced arteriosclerosis with retinitis. The urine showed a trace of albumin with hyaline casts. The Wassermann reaction of the blood and spinal fluid, and the blood on chemical examination were normal. The temperature ranged around the normal line most of the time, but he was not observed by us until three weeks after the illness began. The spinal fluid pressure was 18 mm. of mercury; the fluid was bloody in the first two instances and yellow in the third. He made a complete recovery and was discharged from the hospital eight weeks after admission, eleven weeks after the onset.

CASE 7.—A colored man, aged 50, with negative past and family histories, was admitted to the hospital in coma, Feb. 6, 1929. It was learned that four weeks previous to admission the patient had influenza and pneumonia and was in bed for a week. He returned to work about three weeks before admission and got along well until three or four days before, when he complained of headache. This was diagnosed as indigestion, for which the physician gave him ipecac and the patient vomited; shortly thereafter he became unconscious.

All of the extremities were somewhat spastic; the reflexes were prompt and active in the upper extremities but could not be obtained in the lower extremities. The plantar reflexes were normal, and ankle clonus could not be obtained. The neck was slightly stiff, and a bilateral Kernig's sign was present. The blood pressure was 140 systolic and 75 diastolic. The pupils were contracted and failed to react to light. There were no cranial nerve palsies. A lumbar puncture revealed a spinal fluid under pressure of 38 mm. of mercury and distinctly bloody; 24 cc. was withdrawn, when the patient said he felt improved and answered questions slowly. Examination of the eyegrounds did not reveal anything abnormal. The urine showed 0.5 per cent of sugar on the first examination, although a week later the sugar had disappeared; a trace of albumin and many hyaline casts were noted on both examinations. The blood count showed 11,700 leukocytes, 71 per cent being polymorphonuclears. The blood sugar was 190 on the first examination and a week later 90; the blood Wassermann reaction was four plus. The spinal fluid was negative in every way except for the presence of blood. A roentgenogram of the skull showed no evidence of fracture. The patient made a complete recovery and was discharged from the hospital, March 6.

CASE 8.—A white man, aged 44, with negative family and personal histories, had been well until three weeks before admission, when he had an attack of grip. The night before his admission to the hospital he worked as usual at his job as night watchman and, having returned home, he went to bed at 5 a. m. At noon his mother noticed that he was pale, cold and covered with perspiration. At that time the patient complained of severe headache, which became more and more severe. He became delirious and was sent to the hospital that afternoon (Feb. 1, 1929). On admission he was semicomatose, very restless, and tossed about the bed and moaned constantly. He held his eyes tightly closed because of photophobia. The pupils were contracted but reacted well to light; distinct rotary nystagmus was present. All the deep reflexes were increased and a bilateral Babinski reflex was present. Kernig's sign was noted on the right but was absent on the left. The neck was stiff. The blood pressure was 96 systolic and 54 diastolic. A lumbar puncture was done; the fluid was under 32 mm. of mercury pressure and was bloody; 30 cc. of fluid was withdrawn, and immediately thereafter the patient opened his eyes and said he felt much better, the first words he had spoken since admission. The examinations of the eyegrounds and urine, chemical analysis of the blood and roentgen examination of the skull were negative. The blood count showed 13,050 leukocytes, of which 86 per cent were polymorphonuclears. The blood Wassermann reaction was three plus. Except for the presence of blood, the spinal fluid was normal. The patient was discharged in good physical condition, March 5.

CASE 9.—A negro, aged 50, had been perfectly well except for some impairment of vision which he had noticed a few months before the onset of the present illness. He did not feel well one day and for this reason remained in bed and at 4 o'clock the next morning he was awakened with a violent pain in his head. He was admitted to the hospital that day. He was delirious and restless, and at times he required restraint. On one occasion he threatened to jump out of a window and on account of this he was transferred from the general hospital, to which he was originally admitted, to a psychopathic ward. The mental symptoms persisted and at times he was badly disoriented and confused. He was partly aphasic and had a right hemiparesis. All of the tendon reflexes were absent, but the abdominal and cremasteric reflexes were present. Headache was severe and continuous. The neck was stiff and Kernig's sign was present. The blood pressure varied from 240 systolic and 160 diastolic to 130 systolic and 90 diastolic. There was a slight inequality of the pupils, the right being the larger. The eyegrounds showed marked sclerosis of the retinal vessels with many hemorrhages and the disks a choking of 3 diopters. The urinalysis revealed a trace of albumin and a few granular casts. The chemical analysis of the blood, the blood count and the blood and spinal fluid Wassermann reaction were negative. A lumbar puncture showed bloody spinal fluid under 82 mm. of mercury pressure. The patient made a complete recovery and was discharged from the hospital in three months. He was treated with spinal drainage, a reduction of fluid intake, and magnesium sulphate by mouth.

CASE 10.—A white man, aged 49, came home from work one day complaining of severe pain in his head and the back of his neck. After three days he became confused and talked irrationally. Four days of rather severe mental confusion ensued and then he began to improve slightly. The neck was stiff and Kernig's sign was present. All of the tendon reflexes were absent. There was a bilateral seventh and eighth nerve palsy, and the sixth nerve on the left side was paretic. The left pupil was considerably larger than the right, but both responded promptly to light. A subconjunctival hemorrhage was present in the left eye. The optic disks were both swollen, 3 diopters in the right and 2 diopters in the left. He had a very pronounced mitral regurgitation. The blood pressure varied from 244 systolic and 166 diastolic to 166 systolic and 130 diastolic. The temperature ranged between 99 and 99.4 F. although it occasionally went as high as 100. The Wassermann reaction of the blood and spinal fluid was negative. The urinalysis, chemical analysis of the blood and kidney function test showed evidences of a low grade chronic nephritis. The initial lumbar puncture showed bloody spinal fluid under 50 mm. of mercury pressure. Headache was most persistent, and somnolence was a prominent symptom in the beginning. He was discharged from the hospital in six weeks, considerably improved. He has since died, but no other information is available.

CASE 11.—A white woman, aged 45, left her home one morning feeling as well as usual. On her way to the trolley car in the company of her son she suddenly sank to the pavement unconscious and remained unconscious for several days. There

was a gradual return to consciousness, but it was at least ten days before she could be considered sensible.

At first there was a definite left hemiplegia. All the tendon reflexes were absent early in the disease but later returned and were increased on the paralyzed side. At first there was a bilateral Babinski reflex, but this was later confined to the left side and it still later disappeared. The pupils were dilated and unequal but responded promptly to light. The eyegrounds showed retinal hemorrhages. The neck was stiff and there was a bilateral Kernig's sign. A systolic murmur was heard all over the precordium, and the pulse was feeble and persistently rapid. There was a moderate rise in temperature which lasted for several days.

After consciousness was regained there was a period of somnolence. The urine showed a trace of albumin with granular and hyaline casts, and sugar was present on the day of admission. The leukocytes numbered 32,900. The blood sugar was 220 but the blood on chemical analysis was otherwise normal. The Wassermann reaction was four plus in both blood and spinal fluid.

The patient began to show marked signs of improvement after the first drainage of bloody spinal fluid. She was discharged from the hospital completely recovered from the effects of the hemorrhage in eight weeks.

CASE 12.—A white man, aged 57, had very severe pain in his head five weeks before the onset of the present illness, lasting for two or three days; then it became less intense but continued for two or three weeks. The onset was sudden and he felt dazed at the time. He recovered from this attack and felt very well for about two weeks, when he was again seized suddenly with severe pain in the left temperoparietal region, and a stuporous delirium. There was a definite right hemiplegia and aphasia. One of the pupils was irregular. Meningeal symptoms were present. The tendon reflexes on the right side were greatly diminished, but there was a positive Babinski reflex. Lumbar puncture showed bloody spinal fluid under 18 mm. of mercury pressure. The blood pressure ranged from 170 systolic and 92 diastolic to 90 systolic and 150 diastolic, and the leukocytes were 21,600. The temperature varied from 99 to 108 F. Necropsy showed a large hemorrhage on the left cerebral hemisphere and over the base of the brain. A clot had formed over the motor area of the left side and this caused the hemiplegia. No hemorrhage was found within the brain.

CASE 13.—A colored man, aged 55, employed as a hostler by a large milk concern, was admitted to the Philadelphia General Hospital in coma. The police had picked him up on the street at 4 a. m. They knew nothing of the record but thought that the man had been held up and robbed. Later it was learned from the man's wife that he had left home, as was his custom, about 2 o'clock that morning to go to work and that he apparently was in good health at that time. She did not know how much money he had in his pocket when he left the house, but the police said he had no money on his person when he was found.

Examination showed that the man was comatose and could not be aroused. Moderate but distinct clinical signs of meningitis were present, the temperature was slightly elevated, and while no cranial nerve palsies were discovered the pupils were small and reacted sluggishly to light. All the deep reflexes were present and active. A roentgenogram of the skull was negative for fracture. A lumbar tap revealed a bloody spinal fluid and it was thought in view of the history that this was sufficient evidence on which to base a diagnosis of traumatic subarachnoid hemorrhage. The fluid was sent to the laboratory for routine investigation and it was found to contain meningococci. Subsequent taps also revealed blood in the fluid. The serum was given in the usual manner and the patient made a complete recovery.

CASE 14.—A negress, married, aged 35, was admitted in coma and without a history to the Philadelphia General Hospital, Nov. 2, 1928. The head was examined carefully for injury but none was found. The pupils were small and fixed. No localized palsy could be made out, although the right side of the face and body appeared a trifle weak. The biceps and triceps reflexes were present but diminished; the patellars and achilles tendon reflexes were lost. Ankle clonus could not be obtained. Plantar stimulation produced a typical Babinski reflex on both sides. The neck was stiff and a modified Kernig's sign was present bilaterally. In view of the stupor and signs of meningitis, a spinal puncture was performed and the fluid was found to be very bloody; the pressure was 12 mm. The blood pressure was 120 systolic and 90 diastolic and the pulse 56. Examinations of the urine and blood and roentgen examination of the skull and eyegrounds were all negative. The spinal fluid was normal except for the presence of blood.

After the patient had been in the hospital a few days the following history was obtained: She left Portsmouth, Va., to come to Philadelphia; after the train had passed through Philadelphia, she was found in a stuporous condition. She was taken off the train at Trenton and sent back to Philadelphia, where a partial identification was made by papers found on her person. She was taken to the home of her brother and then to the Philadelphia Hospital. There was no history of trauma in the case, and when the patient subsequently recovered she said she had not been injured.

The patient was treated by dehydration and a daily lumbar puncture. She improved gradually so that she was in condition for discharge six weeks after admission. Up to the time of her discharge she had no recollection of anything having happened to her on the train, although she did remember leaving Portsmouth, Va.

CASE 15.—A white man, married, aged 36, with negative past history except for deafness, was admitted to the Episcopal Hospital, April 6, 1928, and died, April 18. He was in good health until April 1, when he complained of severe headache late in the afternoon and shortly thereafter had a generalized convulsion which lasted about thirty minutes. Following this he was able to recognize his relatives but was extremely weak in all four extremities. Later on the same day he had a second generalized convulsion. On the following day his mind was clear but he had a terrific headache and complained of stiffness of the neck. On admission, headache was his chief complaint. His wife volunteered the information that a few days prior to the onset he had several nosebleeds. There was no history of injury to the head. The pupils were unequal, the right being larger; both reacted sluggishly to light and in accommodation. The eyegrounds were practically normal. The neck was stiff and a bilateral Kernig's sign was present. All the deep reflexes were greatly increased, with a bilateral ankle clonus and Babinski sign. The abdomen reflexes were lost. The finger to nose test, sense of position and pain and touch were normal. The patient was clear mentally but frequently became incoherent in his talk. The spinal puncture showed a pressure of 20 mm. of mercury and a bloody fluid.

A roentgenogram of his skull, and complete examination of the blood and urine were normal. A few days after admission the disks were reported as hyperemic, the veins were dark and full, and there was blurring of the nasal margins; a diagnosis of early papillitis was made. The spinal culture was normal. A daily spinal tap was performed and the fluid gradually became less bloody. Ten days after admission the patient had a convulsion which was general and lasted fifteen minutes. After the attack the right pupil was larger than the left and a marked lateral nystagmus was noted. The right arm was paralyzed and there was little strength in either leg. After the attack the fluid was again quite bloody. Fourteen days after admission, while a lumbar puncture was being performed, the patient said he was going to faint, his head became arched and he stopped breathing, although the heart continued to beat for ten minutes. An autopsy was not permitted. It is likely that this man had a ruptured aneurysm.

COMMENT

The frequency with which instances of spontaneous subarachnoid hemorrhage have been seen in hospital practice would indicate that it must be a not infrequent occurrence in general practice. Given a case, therefore, in which a patient becomes suddenly ill with headache followed shortly by stupor or coma, the possibility of this form of cerebral hemorrhage should be strongly considered. In reviewing the diagnoses under which our patients were sent to the hospital and those that

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were made by the resident physician, we were struck by the inaccuracy of the tentative diagnoses. Meningitis, encephalitis, uremia, diabetic coma and ordinary cerebral apoplexy were the diagnoses most frequently made. The occurrence of bloody spinal fluid is practically unknown in encephalitis and is a rarity in any form of meningitis, although one of our patients, a man with meningococcic meningitis, did have bloody spinal fluid. The examination of a smear and the culture of the spinal fluid for organisms are of great aid in the differentiation.

A word might well be said at this point about the frequent errors made in the diagnosis of uremia. Many patients are taken to a hospital in an unconscious condition that is diagnosed, at least tentatively, uremia. This fact is borne out by the paper of Bissell and Le Count.[17] In their series of 200 patients admitted to the Cook County Hospital in coma who died and were examined post mortem there were forty-six instances in which a diagnosis of uremia was made clinically. Of this number only eight were noted by the pathologist to have enough change in the kidneys to warrant this diagnosis. These authors believe that the frequent erroneous diagnosis of uremia is due to a serious defect in the teaching of medicine and is based on an ignorance of the apparent infrequency of uremic coma. For example, we have seen many patients, who have had the clinical diagnosis of uremia with hemiplegia, the so-called uremic hemiplegia, who died and almost without exception proved to have frank intracerebral thrombosis or hemorrhage and in some instances subdural or subarachnoid hemorrhages the result of trauma. More careful history taking and especially a complete neurologic examination will do away with many of these diagnostic errors.

The great importance of a lumbar puncture in many cases of coma cannot be overestimated. It is always wise, however, before doing a puncture to rule out as far as possible the presence of a tumor, especially in the posterior fossa. In any event it is proper to estimate the pressure of the spinal fluid before withdrawing any of it. Even though the pressure is high, 1 or 2 cc., we believe, may be removed without danger provided a needle not larger than 18 gage is used. The removal of this amount of fluid will make possible examination for cells, organisms, culture and Wassermann test, and in addition it will permit a macroscopic examination of the fluid which will be sufficient to rule out the presence of blood and pus.

The appearance of a small amount of sugar in the urine and relatively slight increase in the amount of blood sugar are not enough on which satisfactorily to make a diagnosis of diabetic coma in a patient with undoubted signs of an acute intracerebral lesion. Many patients with subarachnoid hemorrhage or intracerebral lesions will show glycosuria or hyperglycemia or both.

Intracerebral vascular lesions sometimes cause difficulty in diagnosis. Here the condition invariably produces a hemiplegia and the spinal fluid is not bloody, except in those cases in which the intracerebral hemorrhage ruptures into the lateral ventricle. It has been generally believed that practically all of the cases of intraventricular hemorrhage ended fatally, though it has been reported by Sands and Lederer [18] that there was recovery in a few; we believe a very few, indeed. In practically every case of spontaneous subarachnoid hemorrhage the question of trauma naturally arises; but careful history taking and close examination of the skull accompanied by roentgenographic study will usually suffice to rule out this possibility.

Spinal drainage is undoubtedly the most important procedure in relieving the patient of the symptoms that are due directly to meningeal hemorrhage. It should be done daily until the fluid is colorless. A rather prolonged rest in bed is essential and treatment of the underlying condition is imperative; this may be syphilis, hypertension, nephritis, intracranial aneurysm or arteriosclerosis.

In addition to frequent lumbar punctures for the relief of increased pressure, magnesium sulphate by mouth or bowel, intravenous injections of dextrose and a limitation of fluids will serve to decrease intracranial pressure. A moderate dose of magnesium sulphate may be given daily and 50 cc. of a 50 per cent dextrose solution may be given every day or every other day. Fluids should be limited to 500 or 1,000 cc. daily.

If cases of spontaneous subarachnoid hemorrhage are recognized and the proper treatment is instituted, a great majority of patients will recover. However, if they are allowed to drift along the increased intracranial pressure will frequently lead to death. If recovery does take place it will often be with permanent disability because of the presence of blood clots in the subarachnoid space. These will result in such complications as epilepsy, perhaps local motor weakness and mental retardation.

133 South Thirty-Sixth Street.

17. Bissell, W. W., and Le Count, E. R.: A Consideration of the Relative Frequency of the Various Forms of Coma with Special Reference to Uremia, J. A. M. A. **64**: 1040-1045 (March 27) 1915.

18. Sands, I. J., and Lederer, M.: Intraventricular Hemorrhage, J. Nerv. & Ment. Dis. **65**: 360 (April) 1927.

ACUTE YELLOW ATROPHY OF THE LIVER FOLLOWING ADMINISTRATION OF OXYL IODIDE *

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Oxyl iodide has been on the market for about six years, and is used, like cinchophen, in the treatment of chronic arthritis, neuritis and myositis. It is said to contain "one part of iodine to five parts of phenylcinchoninic acid, two parts of the latter in chemical union with one part of iodine." The drug is a mixture of two parts of cinchophen chemically combined with one part of iodine and three parts of uncombined cinchophen; that is, 83.3 per cent cinchophen and 16.7 per cent iodine.

Cinchophen has been used as a therapeutic agent for about twenty years. Since 1923, an increasing number of reports have appeared in medical literature which suggest the possibility that cinchophen and its derivatives and combinations may induce a very severe toxic jaundice in some patients.

Worster-Drought,[1] Brown,[2] Evans,[3] Glover,[4] Willcox,[5] Kingreen,[6] Hitzenberger,[7] Schwarz,[8] Haudek,[9]

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* In 1921, oxyl iodide was declared inadmissible to New and Nonofficial Remedies by the Council on Pharmacy and Chemistry (Oxyl Iodide Not Admitted to N. N. R., J. A. M. A. **77**: 52 [July 2] 1921).

1. Worster-Drought, C.: Brit. M. J. **1**: 148 (Jan. 27) 1923.
2. Brown, Langdon: Brit. M. J. **2**: 37 (July 3) 1926.
3. Evans, Geoffrey: Brit. M. J. **2**: 93 (July 10) 1926.
4. Glover, L. G.: Brit. M. J. **2**: 136 (July 17) 1926.
5. Willcox, W. H.: Brit. M. J. **2**: 273 (Aug. 7) 1926.
6. Kingreen, O.: Deutsche med. Wchnschr. **53**: 197 (Jan. 28) 1927.
7. Hitzenberger, H.: Wien. klin. Wchnschr. **40**: 205 (Feb. 17) 1927.
8. Schwarz, G.: Wien. klin. Wchnschr. **40**: 238 (Feb. 17) 1927.
9. Haudek, M.: Wien. klin. Wchnschr. **40**: 239 (Feb. 17) 1927.

Klinkert,[10] Rabinowitz,[11] Weil,[12] Loewenthal, Mackay and Lowe,[13] and Dassen[14] have together reported briefly twenty cases of toxic jaundice accompanied by severe nausea and vomiting occurring in patients who had taken cinchophen or some of its derivatives over varying periods of time. Wells,[15] Hitzenberger,[7] Singer,[16] Rake[17] and Sutton[18] have reported five similar cases and in each instance acute yellow atrophy of the liver was found at autopsy. Most of these reports are mere short notes and too few facts are given to warrant attempts at analysis, further than that in thirteen cases in which the sex was stated six were males with two deaths and seven were females with four deaths (including the case here reported). Petty[19] has reported a case of acute pancreatitis, with recovery after operation, which he believed to have been due to the "ingestion of excessive amounts of atophan."

The twenty-five cases cited suggest that cinchophen in its various forms is a source of danger to certain patients. The danger does not appear to be proportional to either the amount of the drug taken or the period of time of its administration but to be dependent on some idiosyncrasy or other condition in the patient. The data available are insufficient to permit any opinion as to the nature of the possible factors that are responsible for the special susceptibility to the action of this drug. We therefore feel justified in adding to the five cases already recorded a sixth case in which both clinical data and postmortem observations are reported.

REPORT OF CASE

History.—Mrs. L., aged 48, came to the office of one of us (D. P. T.), May 23, 1928, because of stiffness, swelling and soreness of the joints of the fingers of both hands. The condition was diagnosed as an early arthritis deformans. Urine examination at the time was negative, except for marked acidity. For the arthritis four oxyl iodide tablets (3 grain, or 0.2 Gm.) were prescribed three times daily and the patient was given vichy water for the acidosis. Relief from symptoms resulted following two weeks' use of the drug, but she continued to take the tablets until approximately November 15, when she left for Florida. She returned about six weeks later and at that time again saw her physician. There was some return to rheumatic symptoms and the urine was markedly acid. Oxyl iodide and vichy water were again prescribed.

Jan. 28, 1929, one of us was called to the patient's home, where she was found to be somewhat irrational; the face and extremities were edematous and the skin was somewhat jaundiced. The pupils were dilated. She had not voided urine for twenty-four hours. Catheterization yielded 1½ ounces (45 cc.) of a very deep amber, slightly turbid urine of strong odor. Oxyl iodide was discontinued. During the period from May until January she had taken approximately 600 3-grain tablets of this drug.

A very hot magnesium sulphate bath and other remedies were prescribed to relieve the retention and resulted in marked perspiration and the passage of 60 ounces (1,775 cc.) of urine in the following twenty-four hours, which had a specific gravity of 1.024, was moderately acid, and contained diacetic acid, acetone, bile and hyaline and epithelial casts, but no albumin and no sugar. The jaundice, however, became more marked. The edema subsided and the patient became more rational. Retention again occurred, the icterus continued to increase, and delirium developed. Successive attempts at relieving the retention by hot baths failed. The patient's condition grew progressively worse and she entered the Martha Washington Hospital, February 4.

On entrance the patient was delirious and had very marked ascites, moderate anasarca and moderate jaundice. The liver was not palpable. A catheterized specimen of urine was essentially the same as that reported except for the strong acidity and the presence of much albumin. The blood picture showed: red blood cells, 3,600,000; white blood cells, 9,200; hemoglobin 62 per cent; and the differential count showed lymphocytes, 13 per cent; neutrophils, 71 per cent, and eosinophils, 2 per cent. Owing to the marked edema, a sample of blood for chemical examination could not be obtained. On the evening of February 4, the patient had several convulsions. During the following day she became more edematous and delirious and the convulsions continued. During the thirty-six hours preceding death, only 12 ounces (355 cc.) of urine could be removed by catheter. Death occurred, February 5.

Autopsy.—The important observations on postmortem examination were acute yellow atrophy of the liver; icterus; edema of the lungs; ascites; bilateral hydrothorax; edema of the subcutaneous tissue; petechial hemorrhages in the pericardium, endocardium, myocardium, pleura, peritoneum, and renal pelves; acute splenitis; multiple fibroids and polyps of the uterus.

The skin was everywhere yellow and pitted on pressure on the legs and ankles. The abdominal cavity contained about 3 liters, each pleural cavity about 500 cc. and the pericardial sac about 5 cc. of clear straw colored fluid. The peritoneum, pleura and pericardium were smooth and glistening throughout.

Crepitus of the lungs was diminished throughout. The pleura contained numerous millimeter sized hemorrhages. When the cut surface of the lung was squeezed, large quantities of a frothy fluid exuded. Cut pieces of lung floated low in water.

The heart did not present any pathologic condition other than hemorrhages in the pericardium, myocardium and endocardium varying in size from 1 to 2 mm.

The liver was markedly decreased in size and weighed 450 Gm. It was flabby and its surface was roughened with several slightly raised flat pale areas 1 cm. in diameter. On section, the liver presented numerous circumscribed chrome yellow raised areas varying from 6 to 10 mm. in diameter, studding a dark reddish-brown background. It is estimated that about 55 per cent of the cut surface of the liver was composed of the yellow areas.

The bile ducts were patent throughout. The gallbladder and pancreas did not show any gross pathologic changes.

The gastro-intestinal tract did not show any pathologic condition other than numerous hemorrhages from 1 to 4 mm., in the gastric and intestinal mucosa.

The spleen was moderately enlarged, and splenic corpuscles were not visible.

The kidneys were normal in size and the capsule stripped with slight difficulty, especially in the grooves of the fetal lobulations, which were distinct. The cut surface of both kidneys was markedly yellow (bile stained); differentiation between the cortex and medulla was not clear cut, and the cortical striations were not distinct. The pelves of both kidneys showed numerous pinpoint hemorrhages. Both ureters were patent throughout. The urinary bladder contained about 15 cc. of a deep amber, turbid urine.

Microscopic examination of the liver showed necrosis of the liver cells and hemorrhage beginning about the central veins and extending for varying distances into the lobule. Many entire lobules and groups of adjacent lobules had entirely disappeared and the connective tissue framework with the bile ducts had collapsed. The bile ducts in these regions appeared very numerous and were separated by loose connective tissue in which hemorrhage had occurred. Such areas furnished the dark red-brown background of the isolated yellow patches previously described. In those places in which the liver cells were best preserved they showed marked fatty degeneration.

The renal epithelium of the convoluted tubules was swollen and contained fine droplets of fat; here and there a cell had lost its nucleus. The lumens of some tubules contained granular detritus, others yellowish-brown casts. The glomeruli showed little or no change.

Microscopic examination of the other organs merely confirmed the anatomic diagnosis.

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Cinchophen is phenylquinoline carboxylic acid. Rotter [20] found that cinchophen is excreted in the urine as hydroxyphenylquinoline carboxylic acid. It is apparently, therefore, not decomposed in the body but is excreted after slight oxidation. Sutton [18] has suggested that in certain patients an abnormal decomposition of cinchophen may result in the formation of highly toxic nitro compounds. "Neither benzene, quinoline nor phenyl produce jaundice in overdoses. On the other hand, the well known nitrophenyls, such as dinitrophenyl, trinitrophenyl and the nitrobenzenes, especially nitrobenzol and trinitrotoluene, all produce jaundice." It is possible also that diet, by modifying the storage of fat, glycogen and other substances in the liver, may be concerned in the susceptibility to the toxic action of cinchophen, corresponding to the well known relation of storage of fat to the toxic effect of chloroform on the liver. Experimental work is being done under a grant from the American Medical Association to determine, if possible, the factors concerned in susceptibility to cinchophen.

LABORATORY-ENDORSED THERAPEUTIC AGENTS

MATHEMATICAL CALCULATION OF THEIR PROBABLE CLINICAL VALUE, ILLUSTRATED BY THE PROBABILITY COEFFICIENT FOR COMMERCIAL BACTERIOPHAGE

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The experimental laboratory stands as the first buffer between suggested curative agents and their clinical application. A hundred instinctive "hunches" may be tested in order that three or four may be endorsed for clinical trial. Any therapeutic agent thus endorsed, however, now faces a second buffer, a mathematical law of clinical probability. For many suggested agents the mathematical probability for or against clinical success is readily calculated.

CALCULATED PROBABILITY WITH VACCINES AND ANTISERUMS

Three decades of clinical experience with laboratory-endorsed vaccines and antiserums give ample data from which to calculate the probability coefficient for this class of therapeutic agents. Hundreds of theoretically logical, laboratory-endorsed vaccines and antiserums have been tried by clinicians; 95 per cent of them have been thrown into the clinical discard.

An impartial mathematician would conclude from this that our fundamental immunologic theories and current experimental laboratory methods assay less than 5 per cent clinically verifiable truth. He would unhesitatingly predict that, of twenty theoretically logical, laboratory-endorsed vaccines and antiserums, only one would prove a clinical success.

Modern immunology is justly proud of its 5 per cent clinical efficiency—the high water mark of all history. One need only recall by way of comparison the 2 per cent verifiable clinical value of the fundamental biologic theories of the mid-Victorian era, the 1 per cent clinical coefficient of Aesculapius.

HISTORICAL DATA FOR CALCULATION WITH BACTERIOPHAGE

It would be more difficult for our mathematician to make an equally reliable calculation for laboratory-endorsed agents in collateral fields of applied immunology; for example, the current laboratory-endorsed bacteriophage. Previous experience with biologic antiseptics of this class has been too meager for more than an approximate estimate. He would be forced to base his approximation on two or three imperfect parallels, with serum bacteriolysin and leukocytic extracts as the closest historical examples.

About two decades ago, the fact that an antiseptic could be extracted from leukocytes led to the instinctive hope that leukocytic bacteriolysin might prove to be the long sought for internal general antiseptic. Laboratory intuition hurdled a dozen intermediary hypotheses to reach this hope, made hasty tests on rabbits and guinea-pigs, and recommended its clinical trial.

Among the intermediary hypotheses thus ignored were the assumptions that (1) since leukocytic extract is demonstrably active against test-tube micro-organisms it will be equally effective against micro-organisms morphologically or functionally adjusted to human tissues; (2) homologous leukocytic extract, being a native body product, must necessarily cooperate with the native fluids and cells of the body in its antiseptic action; (3) it will cooperate equally well with the fluids and cells of other animal species; (4) introduced into subcutaneous tissues, it is not bound or denatured by these tissues but (5) passes unchanged through capillary endothelium and lymph gland barriers into the blood stream; (6) it is not denaturized in the circulation, inactivated by colloidal phagocytosis, or bound or destroyed by hepatic parenchyma and other tissues; (7) from the blood stream the bacteriolysin is secreted or diffuses unchanged into cerebrospinal fluid, aqueous humor and other extravascular tissue fluids, and (8) it reaches the extravascular tissue spaces in sufficient concentration at least to inhibit the growth of pathogenic micro-organisms.

Since some laboratory workers had doubts as to the truth of one or more of these hypotheses, this chain of major and minor premises was supplemented by collateral metaphysics—the assumptions that (9) leukocytic extract contains the normal chemical messenger with which an endangered, overburdened or injured leukocyte calls out the leukocytic reserves; (10) it contains a specific growth-stimulating hormone accelerating leukocytogeneses; (11) by some mysterious chemotaxis it mobilizes leukocytes from the far corners of the body and hurls them against an infected focus; (12) reaching the infected area, leukovitamin puts additional "pep" into the locally mobilized leukocytes, and also (13) speeds up phagocytosis and intracellular bacteriolysis in capillary endothelium and other fixed-tissue macrophages. Finally, all laboratorians agreed in assuming that (14) such a normal body product as leukocytic extract cannot possibly produce toxic effects that will make routine therapeutic laboratory tests inconclusive.

Ten years later, the postmortem on clinical hope showed that at least two of these hypotheses were wrong. Leukocytic extract is inactive in serum and body fluids, even in fluids from the same animal

20. Rotter, L.: Chemical Abstracts **12**: 2384, 1918.

species.[1] Moreover, the reported rabbit and guinea-pig cures are rarely greater than the "borderline therapeutic effects" produced by almost any alien protein or similar internal counterirritant.

ESTIMATED PROBABILITY FROM HISTORICAL PARALLELS

With bacteriophage, our mathematician would note certain important nonagreements with this historic leukocytic extract parallel. While in its instinctive hope a half-dozen intermediary hypotheses have been hurdled, ignored or left untested by laboratory science, animal tests have been carried in some instances beyond the borderline zone of nonspecific protein therapy.[2] He would note that for certain micro-organisms bacteriophage is a stronger test-tube antiseptic than leukocytic extract, and would be influenced by the assertion of its discoverer that bacteriophage is active in the presence of serum and body fluids.[3] Above all, he would be interested in the main difference between bacteriophage and previously tested biologic antiseptics: its metaphorical self-propagation in the presence of specific micro-organisms. He would not lose sight of the suggested possibility, however, that this may not be a distinctive feature of bacteriophage but merely a special instance of a general biologic phenomenon thus far untested for other biologic bacteriolysins.[4]

If forced to make an approximate calculation from available historical data, our statistician would probably take the average of the demonstrated clinical zero for leukocytic extract, the 1 per cent clinical value of serum bacteriolysin and our maximum immunologic efficiency, 5 per cent. This average is 2 per cent. A liberal approximation would be 3 per cent, which is surely a therapeutic gamble, with the odds at least 30 to 1 against clinical success.

CONCLUSION

If asked to translate this mathematical ratio into understandable language, the mathematician would say, "On the basis solely of the nature and completeness of preliminary laboratory tests, without any reference whatever to reported clinical results, and taking into account the clinical dependability of current biologic theories and experimental laboratory methods, the probability is that out of thirty disease conditions in which laboratorians might instinctively hope for curative results, but one clinical improvement would be sufficiently striking to warrant the official adoption of bacteriophage as the treatment of choice."

One new official treatment, demonstrably superior to all previous methods for the same disease, even though its superiority is limited to one specific micro-organism or to one special organ or tissue, is ample recompense to clinical medicine for a hundred preliminary disappointments. The danger is not to clinical medicine but to laboratory science, a loss of hope that may lead to a discontinuation of theoretical advances necessary for a maturer endorsement. With its clinical discard, theoretical research with leukocytic extract practically ceased, in spite of published hints that maturer laboratory studies might lead to its resubmission for clinical assay.[5]

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4. Manwaring, W. H.; Azevedo, J. L., and Boone, T. H.: Do Foreign Proteins Multiply in the Animal Body? Proc. Soc. Exper. Biol. & Med., to be published.
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THE PHYSIOLOGY OF ATELECTASIS*

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Why is it that pneumonia, medical as well as postoperative, is a problem that has yielded less to attack by bacteriology, serology and preventive medicine than has the prevention or cure of any other common infectious disease?[1] This symposium will show, I believe, that the answer may be found in the fact that there is a functional element in pneumonia which is generally lacking in the other diseases with which the internist deals. This element cannot be combated from the side of bacteriology or serology. Fortunately, if taken in time, it can be combated from the side of the physiology of respiration.

Because the treatment of pneumonia has belonged chiefly to the internist, among whose problems the factor of drainage is not usually significant, the importance of keeping open the normal channels of drainage in the lung has been overlooked. Infection in lobar pneumonia certainly takes place by way of the respiratory passages.[2] Thus it has remained for surgeons,[3] among whose problems drainage is a prime factor, to recognize that keeping a lung open and draining through its airways is as important in determining the course of events as is the drainage of a localized infection in any other part of the body.

The lungs are normally the best drained organs in the entire body. The movement of secretion outward is maintained by the cilia, by coughing and by muscular contractions of the walls of the airways.

From the standpoint of physiology, which it is my particular function to present in this symposium, the most significant fact is the influence of the depth of breathing on the patency of the lungs. Shallow breathing strongly predisposes to bronchial obstruction and thus to atelectasis in the obstructed areas. Contrariwise, deep breathing tends to distend the lungs and to reopen areas of atelectasis. The natural stimulant to deep breathing is the carbon dioxide produced within the body.

My[4] work and that of my collaborators, particularly Dr. H. W. Haggard, has for the past twenty years been chiefly directed to the introduction of inhalation of carbon dioxide as the effective means of inducing deep breathing after carbon monoxide asphyxia[5] and after anesthesia.[6] This inhalation has almost eliminated the pneumonia which otherwise commonly results from the shallow breathing after carbon monoxide

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* Read in a symposium on Atelectasis and Pneumonia before the Medical Society of the County of New York, Feb. 25, 1929.

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6. Henderson, Yandell; Haggard, H. W., and Coburn, R. C.: Administration of Carbon Dioxide After Anesthesia and Operation, J. A. M. A. **76**: 672 (March 5) 1921; The Acapnia Theory, Now, ibid. **77**: 424 (Aug. 6) 1921.

asphyxia. It thus now prevents a large number of patients from developing a very fatal form of pneumonia. Essentially the same treatment has been introduced by us into anesthesia and is now proving itself in the experience of Dr. Merle Scott [3] and other surgeons here and in Germany,[7] equally effective against postoperative and postanesthetic atelectasis and pneumonia. In this paper I shall show why I believe that this inhalation may be useful in medical pneumonia also. It is nature's own prophylaxis against atelectasis.

The lungs are generally thought of as membranous sacs composed of connective tissue of a very elastic character supporting innumerable capillary blood vessels in the walls of the sacs. A much more correct conception of the true structure of the lungs is presented by Macklin [8] in a recent monograph. Macklin shows that not only are the walls of the bronchi and bronchioles largely composed of nonstriated muscle tissue but even in the finer structure of the air sacs the lungs are essentially muscular organs. In its embryologic development the entire respiratory tract is an outgrowth of the alimentary canal. In its structure and functions even in the adult, the lung retains many features essentially similar to those of the stomach and intestine. For instance, as Macklin shows, the bronchi, bronchioles and air sacs have a definite muscular tonus. They are contractile, and probably in the normal individual they continually carry on peristaltic contractions. Macklin quotes Gunn to the effect that the respiratory tract has three means of freeing itself from small foreign bodies and from any accumulation of the secretions of its walls: (1) the cough reflex; (2) the action of cilia, and (3) peristaltic movements in the air sacs, bronchioles and bronchi.

There is also physiologic evidence that peristalsis is a normal activity of the lungs. In some physiologic problems the dead space—the mouth, trachea and bronchi—is an important factor. My associates and I [9] found, some years ago, that in normal men the volume of this space is continually varying in a rhythmic manner. The rate of peristalsis is one wave every seven or eight minutes.

The lungs are innervated through the vagi and the sympathetics. In the mammal the vagi are generally described as exerting a tonic and constrictive control over the caliber of the air tubes and sacs. But the character of the influences which call this control into action is still obscure. We are not here concerned with the afferent impulses from the lungs and their influences on the respiratory center. In the frog, Carlson and Luckhardt,[10] and Patterson [11] have shown that nervous reflexes may be elicited which cause contraction of the lungs. They have shown also that destruction of the brain as far back as the medulla, or section of the vagi, leads to a permanent hypertonus or contracture of the lungs. This contracture is exactly like the hypertonus which appears under these conditions also in the stomach. In dogs dying after a blow on the back of the head, congested areas have been observed in the lungs by my associate Dr. Haggard.[12] In human beings massive atelectasis is sometimes a sequel of head injuries. Unfortunately the physiologic literature on the nervous control of the bronchi and bronchioles throws very little light on this matter.

It is, I believe, highly probable that in man any stimulus which tends reflexly to influence respiration toward deep or toward shallow breathing will act also on the lung to alter the caliber of the air tubes in the same general sense: that is, to dilate or to constrict them. Haldane [13] has in fact observed that rapid shallow respiration may induce cyanosis even in normal men. He explained the insufficient aeration of the lungs as due to a passive rather than an active constriction of parts of the lungs. It is known that physical exercise induces deeper and fuller respiration. In harmony with this fact, Haldane [14] and I [9] showed that the dead space of the respiratory tract is increased; that is, the air tubes are enlarged, under exercise. It thus becomes safe to infer that, just as inhalation of carbon dioxide in air or oxygen stimulates breathing, so, too, it tends to dilate the bronchioles and air sacs. Contrariwise, shallow breathing is probably an important contributing cause in the production of cyanosis in pneumonia through the constriction in the air tubes and sacs of the lung.

The other authors in this symposium are much better able than I to describe atelectasis as it occurs clinically. It was, however, the good fortune of Dr. Haggard and myself, as has been mentioned, to discover and introduce a practical clinical method for preventing atelectasis and for causing the lung to dilate again after it has collapsed. Some years ago we introduced a method for the treatment of carbon monoxide asphyxia, which has now come into general use. It consists of the inhalation of oxygen containing 5 per cent carbon dioxide. Before this method was introduced it was a common occurrence, if the patient survived the asphyxia, for him to develop pneumonia.[15] In such cases the probable sequence of events is that under asphyxia there is shallow breathing; shallow breathing induces atelectasis, and in those portions of the lungs which are thus obstructed and collapsed pneumonia develops. It is not the oxygen which is given in our treatment that prevents the atelectasis and pneumonia. It is the carbon dioxide, for this stimulant to respiration causes deep full breathing, dilates the lungs and thus counteracts and overcomes atelectasis.

At the same time that we introduced this treatment for carbon monoxide asphyxia we introduced the use of carbon dioxide in connection with anesthesia. Last summer in Germany I found that German surgical clinics have taken up this idea from our work and are applying it effectively. At the end of anesthesia and operation carbon dioxide is administered; oxygen is unnecessary. It is found that the deep breathing thus induced dilates the lungs and prevents postoperative pulmonary complications. Both atelectasis and pneumonia are eliminated in any surgical clinic where this procedure is the routine.

Finally, it should be mentioned that the inhalators which Dr. Haggard and I have introduced for the administration of oxygen plus carbon dioxide in cases of carbon monoxide asphyxia are being widely used for the treatment of postinfluenzal pneumonia. In the

7. Dzialoszynski, Fischer (footnote 3).
8. Macklin, C. C.: The Musculature of the Bronchi and Lungs, Physiol. Rev. **9:** 1-60 (Jan.) 1929.
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10. Carlson, A. J., and Luckhardt, A. B.: Studies on the Visceral Sensory Nervous System: I. Lung Automatism and Lung Reflexes in the Frog (R. Pipiens and R. Catesbiana), Am. J. Physiol. **54:** 55-95 (Nov.) 1920.
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15. Drinker, C. K., and Cannon, W. B.: Carbon Monoxide Asphyxia: The Problem of Resuscitation, Indust. Hyg. **4:** 463 (March) 1923. Hamilton, Alice: Industrial Poisons in the United States, New York, Macmillan Company, 1925, p. 373.

metropolitan area of New York there are now more than 300 of these inhalators and they are increasingly used in pneumonia. In Pittsburgh we have reports of 126 cases of pneumonia, during the present epidemic of influenza, treated with these inhalators. Of these 126 patients, only nine died. It is probable that several lives were saved, in spite of unfavorable conditions for the test, as all of these patients were dangerously ill before the inhalation was administered. The chief value of the inhalation will probably lie rather in prophylaxis during the early stages than in therapy in fully developed pneumonia; yet some of the reports on the effects of this treatment even in advanced pneumonia are very favorable. They indicate effects quite as good as those from the treatment of fully developed pneumonia by removal of bronchial plugs by means of the bronchoscope.

For the present, however, the possibility of combating atelectasis in medical pneumonia and the extent to which the disease may be thus aborted must be regarded as on trial.

CONCLUSION

Closure of a bronchus or bronchioles is a determining factor in the development of pneumonia. The deep breathing induced by carbon dioxide has already proved capable of preventing such closure and keeping the lungs open. Inhalation of carbon dioxide thus offers a prophylaxis of probable value in the early stages of pneumonic infection. It may be of therapeutic value even in advanced stages of the disease.

POSTOPERATIVE APNEUMATOSIS (ATELECTASIS) AND POSTOPERATIVE PNEUMONIA

EXPERIMENTAL EVIDENCE *

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Experimental and clinical study of postoperative apneumatosis and postoperative pneumonia, carried on for several years, has convinced me that these two complications represent two phases of the same morbid condition. The differences between them are differences only in degree, and they depend on the type and virulence of their most frequent causative organism, the pneumococcus. Otherwise they have the same etiology and the same mechanism of production; they present a similar clinical evolution and they show similar pathologic changes. Furthermore, they are often superimposed in the same case and give rise to similar complications.

The experimental work on atelectasis and lobar pneumococcic pneumonia carried on with the collaboration of Dr. Birnbaum,[1] in the Laboratory of Surgical Research at Cornell Medical College, led me to the following conclusions: 1. There is only one determining cause of atelectasis and that is bronchial obstruction. 2. This occlusion must be complete. 3. Neither paralysis of the respiratory muscles or nervous reflexes, whether they are bronchomotor or vasomotor, nor embolism can be or have been proved to be the determining causes of apneumatosis. Posture, interference with the thoracic movements by postoperative pain or narcotics, and decrease of the means of defense of the lung, e. g., cough, respiratory movements and action of the ciliary epithelium, as in patients after operations, especially on the abdomen and more particularly the upper part of the abdomen, or even in bedridden patients exhausted by wasting diseases, act only as adjunct and favoring causes. But there is only one real determining cause, and that is bronchial occlusion.

In producing experimental pneumonia in dogs, by insufflation into a bronchus of pneumococcus type I, concentrated ten times by centrifugation, we obtained the same clinical signs as in massive apneumatosis; namely, elevation of the diaphragm on the affected side and displacement of the trachea and heart to that side. It is impossible in roentgenograms to distinguish experimental lobar pneumonia from massive atelectasis, the latter produced by mechanical bronchial obstruction. In both, the cause of the elevation of the diaphragm and of the displacement of the mediastinum was proved to be atelectatic shrinkage of the affected lung and the distension of the healthy one that ensues. Between the pneumonic and atelectatic lung there is a difference only in the degree of shrinkage, because in the atelectatic lung there is little or no exudate in the alveoli of the affected portion, whereas in the pneumonic lung the alveoli are filled up with exudate rich in fibrin.

These similarities could not be explained otherwise than by a similarity in the origin of these two pulmonary complications. I thus came to formulate a new theory in the pathogenesis of lobar pneumonia, either postoperative or medical, which, revolutionary as it may appear at first sight, seems to explain a number of features in pneumonia that have been inexplicable up to this time.

This theory is as follows: After operations, especially on the upper part of the abdomen, and this independently of the anesthesia used, general, local or spinal, an immobilization of the thoracic cage occurs, the vital capacity is decreased and the means of the defense of the lung are impaired. This impairment is increased by the postoperative posture and narcotics. A stasis of bronchial secretion in the bronchial tree follows, producing an irritation of the bronchial mucosa, which responds by more secretion. A bronchiolitis occurs, which is due to the more or less infected stagnating secretion; but this bronchitis generally clears up as soon as the lung has regained its means of defense. On the other hand, favored by this bronchitis, pneumococcus type IV, a frequent saprophytic inhabitant of the upper respiratory tract in the human being, can, as the experimental work of Cecil and Blake has proved, invade the lower respiratory ways; pneumococcic bronchitis is produced, with characteristic pneumonic exudate, viscid and rich in fibrin. Still the complication may remain in the stage of bronchitis and most often clears up in from twenty-four to forty-eight hours. But in some cases a bronchial obstruction occurs, and from this time on the evolution of the existing pathologic condition depends on the virulence of the pneumococcus and on the nature and virulence of the other microbes present in the occluding mucus. If the virulence of the pneumococcus is low, the exudate will be poor in fibrin, the toxic general symptoms absent and pneumococcic cellulitis of the

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* Read in a symposium on Atelectasis and Pneumonia before the Medical Society of the County of New York, Feb. 25, 1929.

* Apneumatosis (alpha privative and πνεῦμα gas = airlessness) seems to be a more accurate term than atelectasis (alpha privative, τέλος, complete and ἔκτασις, dilatation), for designating this pathologic condition of the lung, the most important character of which is the absence of air from the alveoli. In this paper both terms will be used.

1. Coryllos, P. N., and Birnbaum, G. L.: Obstructive Massive Atelectasis of the Lung, Arch. Surg. **16**: 501 (Feb.) 1928; Lobar Pneumonia Considered as a Pneumococcic Lobar Atelectasis, ibid. part 2, **18**: 190 (Jan.) 1929. (An extensive bibliography on the subject will be found in these papers.)

lung will not occur. A simple obstructive atelectasis will follow by absorption of the alveolar air. This atelectasis may be massive lobar or lobular according to the size of the obstructed bronchus. Thus, necessarily, this complication will appear within the first twenty-four to forty-eight hours after operation, which would exclude an embolic origin.

If the occluding mucus is expelled early by coughing, and it can be expelled because of its low viscosity, the affected lung will be rapidly aerated, the temperature will drop by lysis or crisis, and dyspnea, cyanosis and pain will rapidly disappear, unless another bronchus is occluded and another atelectatic area develops. But if the virulence of the pneumococcus is higher then, as Wadsworth [2] has proved, the exudate will be much more viscid, because richer in fibrin, and the toxic phenomena more marked. The dislodgment of the occluding exudate will not be easy, and a pneumococcic cellulitis with exudate filling up the alveoli is liable to follow and give a postoperative pneumonia, massive, lobar or lobular according to the size of the obstructed bronchus.

Furthermore, in postoperative atelectasis a number of bronchi may be liberated whereas others will remain obstructed. In this way postoperative pneumonia can follow atelectasis; or after the development of pneumonia another big bronchus may be occluded, initiating the atelectasis complicating an already existing pneumonia. Thus, the cases of Gwyn,[3] Rigler [4] and others of pneumonia complicating atelectasis or the reverse, atelectasis complicating pneumonia, can be easily explained.

This conception has found a strong support in the results obtained lately by Dr. Birnbaum and myself in the study of the circulation in the consolidated lung, both in obstructive apneumatosis and in pneumococcic pneumonia. By injecting the lung capillaries with india ink in the living animals, we found in sections of the injected lungs exactly the same circulatory disturbances in the two diseases.

This theory easily explains the following features in apneumatosis and postoperative pneumonia and the striking similarities between them.

In atelectasis: (1) its production within the first twenty-four to forty-eight hours after operation, generally on the upper part of the abdomen and exceptionally on the head or extremities; (2) the fact that it is equally frequent after general, local or spinal anesthesia; (3) that it occurs more frequently when a "cold" exists previous to the operation; (4) that it is favored by the recumbent position and is often efficiently prevented and cured by rolling the patient from side to side, as Sante [5] has shown; (5) that it is localized in 75 per cent of the cases in the lower lobes and especially the right lower lobe, because of its more vertical direction, which renders the expulsion of the exudate more difficult, and (6) that in every one of these cases in which a bacteriologic study was carried out pneumococcus type IV was found.

In pneumonia: (1) the lobar distribution of lobar pneumonia; (2) the smaller size of the affected lobes as compared with the healthy ones and consequently the often reported displacement of the mediastinum on and the elevation of the diaphragm to the affected side; (3) the development of the complication especially after operation on the upper part of the abdomen, and this independently of the anesthesia used; (4) its appearance within the first twenty-four to forty-eight hours after operation; (5) the constant presence in the exudate of pneumococcus type IV; (6) the great difficulty and often the impossibility of a differential diagnosis between pneumonia and lobar atelectasis, clinically as well as roentgenographically; (7) the similarities in the pathologic changes (fleshy parenchyma, liver-like, sinking in water), and (8) the same distribution with predominance in the inferior lobes, especially the right one.

If between postoperative atelectasis and postoperative pneumonia there are no differences except in degree, between postoperative and medical pneumonia the differences are still smaller. So postoperative pneumonia is the connecting link between atelectasis and medical pneumonia and the experimental study of atelectasis gives the key to the pathogenesis of postoperative and medical pneumonias.

These facts justify the theory formulated here, and allow me to state that the dominant factor in postoperative disease of the lung is bronchial obstruction. Once this obstruction is established, the fate of the lung parenchyma will depend on the microbes present in the exudate. Simple atelectasis will occur if the virulence of the pneumococcus is low; pneumonitis if it is higher. If pyogenic microbes or anaerobes were present, suppurative pneumonitis, abscess or even gangrene may follow with their corresponding local and general lesions and symptoms.

This conception establishes, I believe, the relation existing between these postoperative pulmonary complications, bronchitis, atelectasis and pneumonia, which up to the present have been considered as separate entities, and justifies the conception that postoperative bronchitis—atelectasis—pneumonia and possibly even abscess or gangrene are the successive evolution phases of one and the same form of postoperative pulmonary complication: namely, bronchial occlusion. In much the same way that a gland will be infected by septic occlusion of its excretory duct, so the lung will be infected if its secretory apparatus, represented by the bronchial tree, is occluded, and its natural means of drainage impaired.

CONCLUSION

1. The determining cause of postoperative atelectasis is bronchial obstruction by viscid bronchial exudate. Postoperative immobilization of the thoracic cavity by pain, impairment of cough and respiratory movement by narcotics, and posture are only favoring factors.

2. The dominant factor in the postoperative lung condition is bronchial obstruction and impairment of the free bronchial drainage.

3. The fate of the lung parenchyma after bronchial obstruction depends on the microbes infecting the obstructing mucus. A nonvirulent type IV pneumococcus will produce atelectasis, a more virulent pneumonia, pyogenic and anaerobic organisms, lung suppuration or gangrene.

4. In atelectasis pneumococcus group IV is always present, just as in pneumonia. Between them there is a difference only in the degree of virulence.

5. Clinical evolution, roentgenographic study, pathologic changes, and, above all, experimental investigation, offer evidence for this conception.

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ROENTGEN OBSERVATIONS IN MASSIVE ATELECTASIS AND POSTOPERATIVE PNEUMONIA*

GEORGE W. HOLMES, M.D.
BOSTON

The roentgen appearance in collapse of the lung will depend on the extent of the collapse and, to some degree, on the etiologic factors. I shall confine my remarks as far as possible to a discussion of the observations in postoperative massive collapse.

The degree of density depends on the completeness of the collapse and the presence or absence of "drowning." The involved area is more dense than the surrounding lung; the heart and mediastinal contents are usually displaced toward the affected side; the diaphragm is high and, in the early stages, there is absence of respiratory excursion; the intercostal spaces are narrow, but the costophrenic sinus is usually not obliterated. When only one lobe is involved the dull area will correspond to the region of the involved lobe, although the area is usually smaller. The lower margin is likely to be sharply defined, the upper rather mottled and indistinct. The displacement of the heart to the affected side is less marked, particularly if the collapse is in the upper lobe. Frequently there is complete collapse of one lobe and partial collapse of an adjoining lobe. The high, fixed position of the diaphragm is a fairly constant finding in all early cases and is of considerable value in the differentiation of postoperative collapse from collapse due to foreign bodies in the bronchi. In the latter there is usually some respiratory movement present.

In some cases of massive collapse there is probably a considerable amount of fluid in the air passages. In these cases the shadows are more dense, the outline of the diaphragm may be obliterated and the displacement of the heart to the affected side may be considerably less. The resemblance to collapse following obstruction from foreign body is striking. Delay or failure of the collapsed lung to expand may result in a chronic condition which has a fairly characteristic roentgen appearance, particularly if the involved area is in a lower lobe. In these cases there is usually complete disappearance of air from the affected lobe; the bronchi are dilated, and the patient may have symptoms resembling bronchiectasis or lung abscess. In the roentgenograms a triangular area of dulness is seen between the diaphragm, the heart and the normal lobes. The margins of these areas are sharply defined and the shadow is quite dense; if it occurs on the left side it may easily be hidden by the shadow of the heart. The diaphragm on the affected side is usually high and its movement somewhat limited.

While it is not proved that this condition follows acute massive collapse, there is considerable evidence that this is a possibility. The shadow caused by chronic complete collapse of the lung is similar to that seen in chronic suppuration and is frequently overlooked or misinterpreted. The fact that these patients may present the symptoms of chronic lung suppuration is also likely to lead to a diagnosis of lung abscess or bronchiectasis. The roentgen observations in the typical cases are sufficiently distinct to permit of a correct diagnosis if the examiner considers collapse as a possibility. The error usually occurs from failure to consider collapse or by overlooking the shadow completely. The signs of importance in the differentiation from lung abscess or bronchiectasis are: the shape of the shadow, which is tonguelike or triangular; its even density with absence of mottling or cavity formation; the sharply defined margins without evidence of inflammatory reaction around them, and the location of the shadow. The lobes usually involved are the lower ones, and the shadows are seen in the angles between the heart and the diaphragm.

The postoperative pulmonary complications most likely to be confused with acute massive collapse are pneumonia or infarction. The character of the shadows produced by these conditions may resemble collapse to such an extent that a differentiation from the shape, density and position alone would be impossible. In these cases, however, the displacement of the heart and mediastinum to the affected side is absent or slight—never present to the extent seen in collapse. The position of the diaphragm may be high but not extreme; there is usually some respiratory excursion present, and dull patches in the opposite lung are not infrequent. A marked change in, or a complete disappearance of, the dull area following cough or change in position is a diagnostic sign which should not be neglected.

In the interpretation of roentgenograms of the chest it is necessary to keep in mind the effect of respiration, position, tube-film distance, and exposure time on the appearance of the lung fields.

In postoperative pulmonary complications it is usually not possible to make fluoroscopic studies, and the roentgen observations are obtained from a series of films. These films are usually taken at the bedside, which necessitates relatively short tube-film distance and a rather long exposure time. The character of films taken under these conditions must be considered in drawing conclusions.

As pointed out by Sante, a marked change may take place in postoperative collapse if the patient is allowed to cough or change position. This procedure should be tried when possible and roentgenograms taken before and after doing so, as they may help to establish the diagnosis. It is of considerable importance to have roentgenograms taken at stated intervals until the lung returns to normal, as there is some evidence that in a certain percentage of these cases the involved lobe fails to expand and may become airless.

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* Read in a symposium on Atelectasis and Pneumonia before the Medical Society of the County of New York, Feb. 25, 1929.

The Aging Process.—In the very heyday of man's powers, in the full summer of his creative possibilities, and of his desires and ambitions, the life-drama played by each human actor discloses, quite suddenly and unexpectedly, its real tragicomic motive. It is as if the player himself had been enacting a part in a drama, the course and the end of which he did not fully comprehend. It had been a pleasant play of exciting incident, joyous adventure, vital desire and satisfaction, ambition and achievement. The actor has wantoned with his rôle to his own satisfaction, and now, well past the middle of the second act, he is shocked by a sharp hint from the prompter's box that his interpretation of his rôle must be changed into another key—one less pleasant, more difficult and unsatisfying. From now on to the end of the third act he must portray the picture of gradually flagging desire and failing powers, of disillusionment, fading pleasures and progressive fatigue, in other words, senescence, until his rôle ends in ultimate death. The title of this tragicomedy is "The Life of Man"; its three acts are entitled: I, Evolution; II, Maturity; III, Involution. It is the story of a living, multicellular organism—a chemicophysical machine transforming, storing and releasing energy—capable of building and restoring its own substance, and repairing its wear-and-tear damage within certain bounds, but only for a limited period of time.—Warthin, A. S.: Pathology of the Aging Process, *New York State J. Med.*, Nov. 15, 1928.

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MASSIVE ATELECTASIS AND POST-OPERATIVE PNEUMONIA

PROPHYLAXIS AND TREATMENT *

W. J. M. SCOTT, M.D.

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Every physician and particularly every surgeon should be keenly interested in the prevention and treatment of postoperative pulmonary complications. Anesthesia, asepsis and accurate hemostasis have removed most of the dangers of surgical intervention and have vastly increased the limits of surgery, particularly for operations of election. Only in the control of the postoperative pulmonary complications has little progress been made, and in this field lie infrequent but still unpreventable postoperative tragedies.

The study of massive atelectasis had interested me for a number of years in the surgical clinics of the Peter Bent Brigham and Lakeside hospitals.[2] Therefore when I went to the surgical clinic of the University of Rochester, on its establishment, it surprised me greatly to find that there seemed to be a diminished incidence of this complication, although I had the opportunity of studying several instances in other hospitals of the same city. Thus, the apparent diminution was not due to any unexplained conditions in the changed environment. As such an effect, if a true one, was highly important, I began a careful investigation, with the help of our chief anesthetist, of any factors that could account for it. The only differences in the treatment of the patients in these series that seemed at all related to the problem were two: First, most of the patients in the second series were given hyperventilation with carbon dioxide at the close of operation for its effect on their general condition, as used originally by Henderson and Haggard [3] and as applied by White [4]

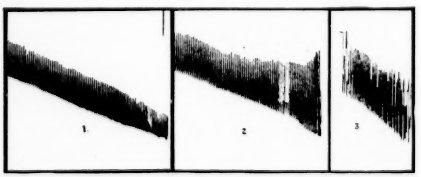

Fig. 1.—Spirogram of respiratory volume at the end of appendectomy (Benedict-Roth apparatus). The records read from right to left: (1) at the conclusion of operation; (2) one minute later after hyperventilation with carbon dioxide; (3) after about four minutes of hyperventilation. This shows the immediate effect of hyperventilation in increasing the depth and minute volume of respiration.

at the Massachusetts General Hospital. Second, all patients in the series were on Gatch beds and were usually put into Fowler's position as soon as they were conscious. The first of these factors seemed much more significant than the second. Therefore, hyperventilation with carbon dioxide was given at the close of every general anesthesia to all patients except the very few in whom it was contraindicated.[5] Figure 1 shows the effect of this procedure on the depressed pulmonary ventilation at the close of operation. After an analysis of our results, a similar procedure was instituted in the surgical clinic at Lakeside Hospital a few months ago. Their cases have been added to the second series.

The first series comprises 2,000 cases in which operation was done without hyperventilation. (Minor cases and all operations on the nose and throat and eye were excluded from both series.) Twelve of the patients developed typical massive atelectasis with unquestioned displacement of the heart. The condition of several others was suggestive of atelectasis but they were excluded because the roentgen examination did not reveal unquestionable cardiac displacement. This is an incidence of 0.6 per cent of massive atelectasis for the series without hyperventilation, which is as low a figure for the incidence of this complication as has previously been reported in any fairly extensive series in which massive atelectasis has been separated from pneumonia. The reported figures run from this up to 1.5 per cent. The second series comprises 2,850 operative cases. Among them seven instances of massive atelectasis occurred, or 0.25 per cent for the series.

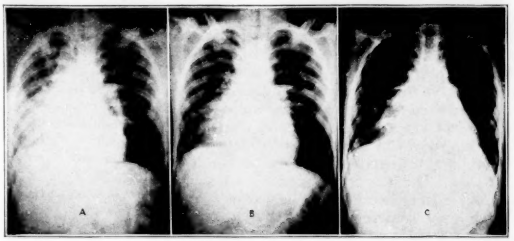

Fig. 2.—A. H.: *A*, twenty-four hours after appendectomy; typical right massive atelectasis; density of lung less than usual but cardiac displacement definite. *B*, thirty minutes later after hyperventilation with carbon dioxide; decrease in density in right lung and movement of the heart back toward its normal position. *C*, twenty-four hours later, showing nearly normal roentgenographic appearance of the lung.

On the face of these figures it would appear that the incidence of this type of postoperative pulmonary complication, namely, massive atelectasis, has been reduced following hyperventilation during or after operation by 50 per cent. However, on investigating examples of the complication, it was found that the effect was probably more than would be indicated even by this figure. Of the seven cases of the complication, two occurred among the first 150 cases and in both instances the patient did not receive any hyperventilation. The first one was a bilateral polar ligation for a severe exophthalmic goiter, and it was felt that the patient had had so short an operation under gas anesthesia that hyperventilation was unnecessary. The second one was a cholecystectomy in which both the operation and the anesthesia were so short and uncomplicated that hyperventilation was omitted. These two cases occurred before I had inaugurated the policy of routine hyperventilation for the prophylaxis of postoperative pul-

* From the Department of Surgery, University of Rochester School of Medicine and Dentistry.

* Read in a symposium on Atelectasis and Pneumonia before the Medical Society of the County of New York, Feb. 25, 1929.

* Because of lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the author's reprints.

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3. Henderson, Yandell; Haggard, H. W., and Coburn, R. C.: The Therapeutic Use of Carbon Dioxide After Anesthesia and Operation, J. A. M. A. **74**: 783 (March 20) 1920.

4. White, J. C.: Deetherization by Carbon Dioxide Inhalation, Arch. Surg. **7**: 347 (Sept.) 1923.

5. A preliminary report of this method of treatment was published by Scott and Cutler in 1928 (footnote 2, second reference).

monary complications. Two more of the seven patients received local anesthesia and consequently were not given hyperventilation. In one a herniotomy was done and in one an appendectomy. Only three of the patients actually developed massive atelectasis after receiving hyperventilation. Consequently only about 15 per cent of the patients did not receive hyperventilation; yet this group accounts for more than half the instances of massive atelectasis. Among those given hyperventilation in the second series, the incidence of this complication is less than one fourth that of the first series.

TREATMENT

Lee deserves the credit for first suggesting any treatment which seemed to have a favorable effect on fully established massive atelectasis. On the basis of the assumption that the obstruction in the respiratory tree occurred in the main bronchi, Jackson and Lee [6] advised bronchoscopic aspiration and in several cases carried out the procedure with improvement both in the patient's condition and in the degree of atelectasis present. There was a marked tendency toward recurrence of the atelectasis, for which they sometimes repeated the therapeutic measure. There are very few clinics in which bronchoscopy on a patient with marked respiratory distress and a pulse rate of 150 or 160 can be viewed with indifference as a procedure of election. Two other measures have been advocated more recently which are extremely simple. Sante has advised rotating the patient on the unaffected side and has reported [7] the striking improvement obtained by this simple procedure in at least some cases. In reviewing the cases of unilateral massive atelectasis that occurred after the patient was kept turned on one side, Joelson and I [8] found that the dependent lung always was the one affected. Assuredly, then, in those postoperative pulmonary complications associated with cardiac displacement, as soon as the latter fact is ascertained the patient should be turned on the opposite side. Obviously this procedure is not applicable to those more numerous instances which are at least fully as important in which there is no cardiac displacement and which are still called postoperative pneumonia. The only postural treatment available in such cases is to see that the patient does not remain constantly in one position, unless one accepts a recent suggestion to put the patient in the Trendelenburg position. From my knowledge of the tendency this position has to encourage hypostasis in the lungs and its sequel in the aged, viz., the development of pneumonia, it seems to me extremely unlikely that the Trendelenburg position is as satisfactory as Fowler's position.

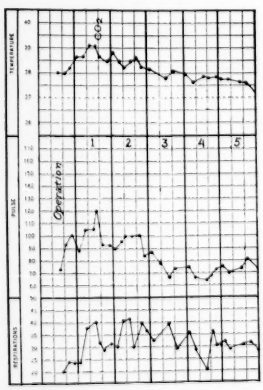

Fig. 3.—Clinical chart of A. H.

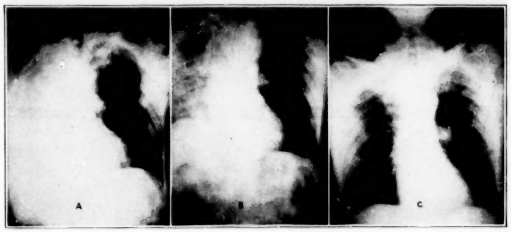

Fig. 4.—W. C.: *A*, forty-eight hours after resection of piece of tenth costal cartilage under local anesthesia; typical right massive atelectasis with displacement of heart and mediastinum; the position of the trachea is easily seen in the original films and for purpose of identification in the prints is outlined with dots. *B*, ten minutes later, after seven minutes' hyperventilation with carbon dioxide; attention is called to the marked degree of clearing of the density in the right lung; the patchy appearance of the remaining density, and the movement of the heart and trachea back toward their normal position. *C*, thirty-six hours later.

Before the publication of Sante's suggestion in regard to posture and in consequence of the encouraging results which I was obtaining in the prevention of postoperative massive atelectasis by hyperventilation with carbon dioxide, I began also to employ it in the treatment of the few instances of the complication that occurred. Carbon dioxide inhalations were given to these patients, roentgenograms being obtained just before and just after the treatment. In each instance of uncomplicated unilateral massive atelectasis in which it has been used, marked immediate improvement, both clinical and roentgenologic, has been obtained. In all instances at the close of the therapeutic hyperventilation the patient was kept lying on the relatively unaffected side. The accompanying roentgenograms illustrate the immediate improvement produced by hyperventilation in the atelectatic condition.

Incidence of Postoperative Pulmonary Complications With and Without Hyperventilation

	Hyperventilation	Operations	Massive Atelectasis	Incidence
Series A 1924-1926	None	2,000	12	0.6%
Series B 1926-1928	Usual	2,850	7	0.25%
Series B—7 Cases				
2 (early)				No hyperventilation
2 local anesthesia				No hyperventilation
3 general anesthesia				Hyperventilation

A patient in another hospital, in whom the pulmonary complication was of more than a week's duration before it was recognized that massive atelectasis was present, was given carbon dioxide inhalations on several occasions. At that time there was a well marked massive atelectasis of the left lung and a diffuse mottling of the right. On each occasion the respiratory distress, which was acute, was strikingly alleviated, so that the patient herself would ask for the "gas" at such times. At first, therapeutic hyperventilation was not carried out

6. Jackson, Chevalier; and Lee, W. E.: Acute Massive Collapse of the Lungs: Discussion of Its Mechanism and of Its Relation to Foreign Bodies in Bronchi and Postoperative Complications, Ann. Surg. **82**: 364 (Sept.) 1925.

7. Sante, L. R.: Massive (Atelectatic) Collapse of the Lung, with Especial Reference to Treatment, J. A. M. A. **88**: 1539 (May 14) 1927.

8. Scott, W. J. M., and Joelson, J. J.: Postoperative Massive Atelectasis: I. The Influence of Posture, Arch. Surg. **15**: 855 (Dec.) 1927.

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in any instances except in this group which I have studied statistically, namely, massive atelectasis. More recently, however, the procedure has been used early in the development of postoperative pulmonary complications without cardiac displacement which are still designated as pneumonia. The apparent benefit in these cases is great. Reports from some of the German clinics also suggest the value of carbon dioxide hyperventilation in preventing postoperative complications.[9]

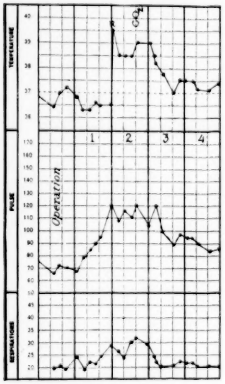

Fig. 5.—Clinical chart of W. C.

Henderson[10] has convincingly shown that hyperventilation in carbon monoxide poisoning prevents the postasphyxial pneumonia which was very common in untreated cases. Experimentally in animals this result seems to be due to the fact that carbon monoxide asphyxia causes a profound pulmonary congestion which hyperventilation overcomes. Probably this effect of carbon dioxide inhalation in tending to overcome pulmonary congestion is as important in the prophylaxis and treatment of postoperative pulmonary complications as is the mechanical clearing of the fine air passages by the hyperventilation. The circulatory condition of these patients after carbon dioxide inhalations is greatly improved; the weak, thready pulse becomes full and vigorous, and the cyanosis is diminished. In fact, the improved filling of the heart with blood caused by the deep respirations may be a significant factor in the improvement, as many of the alarming symptoms of massive atelectasis are apparently due to the acute displacement of the mediastinum and its consequent hindrance to the supply of blood to the heart.

CONCLUSION

Routine hyperventilation during or at the close of operation has greatly diminished the incidence of massive atelectasis and probably also the other serious postoperative pulmonary complications in the series of cases studied over a period of more than two years. Therapeutic hyperventilation early in the course of those cases in which massive atelectasis does develop produces immediate striking benefits, both clinical and roentgenologic, and when followed by postural treatment has cleared up the uncomplicated cases within a very short time. No patients in the series so treated have had any important symptoms of massive atelectasis for more than from twenty-four to forty-eight hours, whereas it was common before the institution of these measures for the serious symptoms to extend over a period of a week or more. On account of the difficulty in determining the exact limits of postoperative pneumonia, I do not have statistical evidence of its benefit either as a prophylaxis or a treatment for postoperative pneumonia. However, it appears quite clear that such postoperative pulmonary complications without cardiac displacement are fundamentally similar in origin to those in the group which has been submitted to statistical study, and there is assurance that cases of postoperative pneumonia not falling in this group of massive atelectasis show at least symptomatic benefit from hyperventilation with carbon dioxide. Previous studies have shown that the incidence of postoperative pulmonary complications is much higher in two groups of operative cases: (1) those in which the operative incision is located in the upper part of the abdomen, and (2) those in which for any reason there is a diminished vital capacity. Consequently in these two groups of patients particularly it seems desirable to carry out prophylactic hyperventilation with carbon dioxide, the procedure to be repeated early if any symptoms suggesting the development of postoperative pulmonary complications arise.

9. Dzialoszynski, A.: Apparatur zur Kohlensaureinhalation und bildliche Darstellung der Kohlensaureanwendung am Kranken, Deutsche Ztschr. f. Chir. **205**: 22, 1927. Fisher, Erich: Prevention of Postoperative Lung Complications by Inhalation of Carbon Dioxide, Zentralbl. f. Gynäk. **32**: 2010 (Aug. 11) 1928.

10. Henderson, Yandell: Absorption and Elimination of Volatile Substances Through Lungs: Anesthesia, Poisoning by Gases and Vapors in Industry: Treatment of Asphyxia, Brit. M. J. **1**:41 (Jan. 9) 1926.

MALIGNANT DEGENERATION OF A BRANCHIAL CLEFT REMNANT

REMOVAL OF ALL STRUCTURES FROM THE RIGHT SIDE OF THE NECK

C. A. ROEDER, M.D.
OMAHA

A man, aged 60, consulted me in May, 1924, for a tumor about 2 cm. in diameter apparently attached to the anterior and inner border of the midportion of the right sternomastoid muscle. He first noticed it eighteen months previously and was treated by the x-rays, which apparently brought about a reduction in size. It began to enlarge about one month before his examination. A frozen microscopic section during an exploratory operation demonstrated an epithelial malignant condition, and an immediate removal of the sternomastoid muscle with the spinal accessory nerve and internal jugular vein, together with adjacent fascia and lymphatic nodes, was carried out. The dissection was difficult, owing to the previous effect of the x-rays on the deep structures. The wound failed to heal and an extension of the malignant area was very apparent two months later. The electric cautery and radium were then applied with-

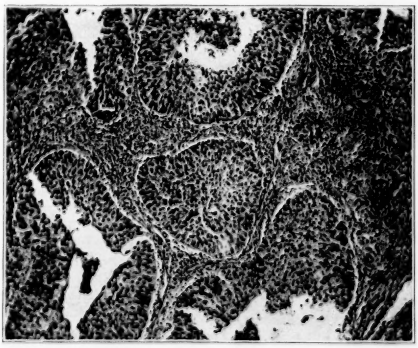

Fig. 1.—Low power view of glandlike epithelial masses and connective tissue stroma.

out any apparent effect, and in September a radical removal of all structures on the right side of the neck was proposed after the roentgenograms failed to show any extension into the thorax.

This operation consisted of a long incision with extensive flaps of skin only, beneath which all of the soft structures appeared and felt like a nodular mass of leathery tissue from the previous irradiation and cauterization. The isthmus of the thyroid gland was divided over the trachea, and the right lobe

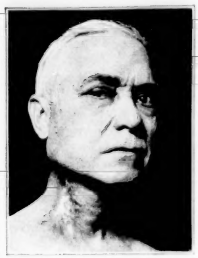

Fig. 2.—Contracted pupil and ptosis of the right eyelid 120 days after the operation.

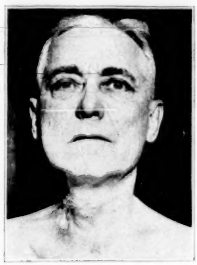

Fig. 3.—Contracted pupil and ptosis of the right eyelid 120 days after the operation.

was completely removed from its attachments, including the parathyroid glands and recurrent laryngeal nerve. The right submaxillary triangle was next dissected free from its contents of fat, fascia, salivary gland and lymphatic nodes. Returning to the former dissection, all of the soft structures at the level of the sixth cervical vertebra were cut across as far as the anterior lateral border of the trapezius muscle and as deeply as the transverse processes of the vertebrae, the levator anguli scapulae and the complexus muscles. The brachial plexus was carefully preserved, no tissue, however, being left attached to it. This last incision divided the sternohyoid, sternothyroid and omohyoid muscles, cervical sympathetic nerve trunk, the common carotid artery (the internal jugular was previously removed), the vagus nerve, the phrenic nerve, the scalenus muscles, the transverse cervical artery and vein, and the deep cervical artery and vein. This entire block of tissue was then dissected upward and from the bodies of the upper cervical vertebrae and their transverse processes. About one inch of the anterior edge of the trapezius muscle also was removed. The hypoglossal nerve was dissected free with no little difficulty and the mass of tissue was then cut across about one inch below the mastoid process of the temporal bone. It was most difficult to recognize tissue in this area owing to the marked sclerosing effect of the previous roentgen therapy.

The patient's pulse on returning to bed was 120, respirations 12, and temperature 97.6. The respirations fell to 8 per minute during the following hour and returned to 12 the following day. From the second day the pulse, respirations and temperature remained normal. A definite lethargy was manifest during the first twenty-four hours, and during the next seventy-two hours the patient became exceedingly restless and irrational. This mental condition, however, cleared up in five days. Immediately after the operation he talked with a hoarse whisper owing to paralysis of the right vocal cord. A very troublesome cough developed twenty-four hours after the operation, which lasted four days and was accompanied by nausea but no vomiting. The day following the operation there was present 50 per cent ptosis of the right eyelid. The contracted pupil was first noticed about one minute after the mass from the neck was completely removed, but enophthalmos was never definitely present. On the eighth day, when he began to read, he noticed a vertical diplopia which lasted only four days. The patient stated that the right half of the tongue had lost sensation immediately after the operation, which remained in this condition for several weeks. This was due quite likely to a slight injury to the lingual nerve in the submaxillary triangle. The sense of taste, however, was never absent. About eighteen days following the operation, marked nausea developed each time he brushed his teeth. When first outdoors, excessive lacrimation from the right eye occurred, while indoors for the first three weeks excessive sweating in the right side of the face was troublesome. The wound, which was left open, healed over completely in about 130 days after the operation.

Five months following the operation, the patient appeared in good health, no pain was present, and he could move his head freely in all directions. The right shoulder could be elevated normally through the contraction of the remaining portion of the trapezius muscle. Cutaneous sensibility was absent over the areas supplied by the suprascapular, cutaneus colli, great auricular and lesser occipital nerves. Almost the same degree of ptosis of the right eyelid was present and the right pupil was still smaller than the left and sluggishly reacted to light. Lacrimation was still excessive when outdoors, but there was no more visual disturbance. A tingling sensation in the right half of the tongue was present, which was followed in six months by a complete return to normal sensation. Eight months later the ptosis of the right lid had almost disappeared, lacrimation was normal, and the pupil reacted to light and in accommodation. Sensation over the areas supplied by the cut sensory nerves was about one fourth recovered.

Four and one-half years after the operation, the patient appears in perfect health. His vision is normal, with 20/20 in each eye. In subdued light the right pupil measures 2 mm. and the left 3 mm. The diameter of the right palpebral fissure measures at the widest point 8 mm. The diameter of the left, 10.5 mm. Two per cent cocaine solution produced dilatation of both pupils to 6 mm. Intra-ocular tension was equal in the two eyes and was below the usual degree in persons of this age, nearing 64 years.

I have two reasons for reporting this case: (1) the duration of life after the operation, which may denote a cure, and (2) the physiologic reactions occurring after the most radical operation that can be performed on one side of the neck.

Malignant conditions starting in the neck, outside of the thyroid, are generally of connective tissue origin. A study of the sections of this specimen shows a carcinoma of the type found following malignant degeneration of a branchial cleft remnant (fig. 1). All structures, including the muscles, appeared "tanned," thickened and adhered to one another. Several sharp knives were required in the dissection; scissors of the

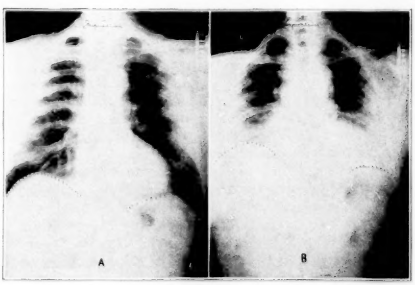

Fig. 4.—Movement of the right and left diaphragm six months after the operation. No signs of paralysis were evident on the right side: *A*, inspiration; *B*, expiration.

heaviest type were useless. I feel that the previous administration of the x-rays greatly assisted in obtaining the final excellent results. Where the malignant mass apparently ended could not be determined, all the structures on this side of the neck feeling like a solid leathery mass.

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POSTOPERATIVE REACTIONS

The postoperative reactions were most interesting and instructive, particularly from the standpoint of anatomy and physiology, which will be considered under the divisions of lymphatics, veins, arteries, nerves and muscles. The removal of the right half of the thyroid and adjoining parathyroids needs merely to be mentioned, not having caused any disturbance.

Muscles.—All of the muscles in the right side of the neck, from the level of the clavicle up to the stylohyoid, were removed, except the levator anguli scapulae, complexus, and the posterior four fifths of the trapezius. Six months after the operation, the patient enjoyed practically all of the normal motions of rotation, extension, flexion, abduction and adduction. Except for his appearance, an observer would notice very little limitation. Perhaps the obliqui and recti capitis of the other side of the neck became efficient substitutes.

Lymphatics.—As is usual in complete dissections of the lymphatics on one or both sides of the neck, no signs of lymphedema result, which was true in this instance. This is most interesting, particularly following a bilateral removal of the lymph nodes and channels of the neck. It offers a diverging thought along the prevalent ideas of lymphatic circulation.

Fig. 5.—Shoulders elevated, illustrating a functioning trapezius muscle on the right side.

Veins.—The only vein that need be considered is the deep jugular, which has been blocked by resections and ligatures so many times without untoward results that further discussion is unnecessary.

Arteries. — The only artery of moment is the common carotid. When this artery is ligated or resected, blood flows to the circle of Willis through the vertebral, inferior and superior thyroid and deep cervical arteries. In this instance the deep cervical, inferior and superior thyroid arteries were resected, leaving only the vertebral intact. A review of the literature, which is extensive, discloses that, in about 25 per cent of common or internal carotid ligations, symptoms of the central nervous system develop, and that in about 50 per cent of these cases the patients die. It appears, therefore, that only about 12.5 per cent of ligations of the common carotid prove fatal. The circle of Willis has rarely been found inadequate or defective in these fatal cases as the result of cerebral necrosis or hemiplegia. Evidently an ample blood pressure is a most desirable factor following these operations. Preceding or immediately following such surgical maneuvers, the administration of ephedrine may be a procedure of choice.

Nerves.—The cervical sympathetic ganglions influence glandular and muscular phenomena in the head and neck. The upper extremities are influenced by the first and possibly second thoracic ganglions. Following this operation, a contracted pupil was noted, ptosis of the upper eyelid, increased lacrimation of the right eye, and increased perspiration of the right side of the head and neck. The right arm remained unaffected. Ptosis of the upper eyelid was due to paralysis or a loss of tone of the smooth muscle of Müller, which normally assists in holding the lid elevated. This muscle is supplied by a branch from the superior cervical sympathetic ganglion. Some authors state that the levator palpebrae superioris muscle is attached to the tarsal plate in the upper lid by nonstriated muscle fibers, which would be supplied by fibers of the sympathetic system. Paralysis of these fibers alone might allow a partial descent of the upper lid.

Fig. 6.—Head rotated normally to the right.

The dilating and contracting muscle fibers of the pupil are undoubtedly controlled by the sympathetic nervous system. It is proved that the dilating fibers are controlled by a pathway through the upper cervical sympathetics. The sympathetic pathway controlling the constricting fibers is still under discussion. This patient's right pupil apparently will never equal the left pupil in size.

The vagus nerve in the right side of the neck is presumed to have less influence over the action of the heart than the left. As to the relative degree of control over the lungs, stomach and small intestine there is very little to be said at present. Following resection of the right vagus, the patient did not show any suggestive signs or symptoms. His pulse for the first twenty-four hours remained around 120 and he remarked about a peculiar tingling sensation in the region of the pylorus for several weeks after the operation: and his unusual susceptibility to nausea, while brushing his teeth, for about four weeks following, merely suggests a possibility of some loss of right vagus control. The cutting of both vagus nerves in dogs has been reported as resulting in a fatal bilateral bronchopneumonia. Sectioning the vagus in the neck would produce paralysis of the vocal cord; in addition, the recurrent laryngeal nerve was resected with the thyroid and parathyroid glands. The patient immediately evidenced a vocal cord inhibition, which is still present.

Fig. 7.—Head rotated to the left and apparently limited slightly by scar tissue in the right side of the neck.

The phrenic nerve in man originates from the third, fourth and fifth cervical nerve, and its main termination is the central portion of the muscles of the diaphragm. The extent of muscular tissue it innervates varies, the outer portion of the diaphragm receiving

motor fibers from the original somatopleure, the lower thoracic nerves. When sectioned it generally, if not always, results in paralysis of at least the central portion of the diaphragm. In this case I could not identify the phrenic nerve, owing to the leathery mass resulting from the previous tanning by the x-rays; but I did recognize the scalenus muscles which were removed and I also removed all the branches of the cervical plexus close to where they emerged from the vertebral column. If a phrenic nerve was present, it was resected. A dissection of the mass after its removal displayed a nerve trunk in the locality, anterior to the scalenus medius, which resembled the phrenic.

The patient, however, did not show any signs of paralysis of the right side of the diaphragm. The liver descended with respiration as determined by palpation, a changing thoracic dulness with inspiration and expiration and the roentgen shadows (fig. 4). In this instance the phrenic nerve quite likely innervated only a very small central portion of the diaphragm. Resection of both phrenic nerves in human beings and dogs has been observed with no embarrassment to respiration nor other ill results.

The spinal accessory is usually the motor nerve of the trapezius, and when this muscle is paralyzed the person cannot lift his shoulder. This patient at no time has failed to raise his shoulder. Occasionally, the trapezius is supplied by motor nerves from the first three cervical nerves with or without innervation from the spinal accessory, as exemplified by this case.

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PNEUMOCOCCIC EMPYEMA

TREATMENT BY INTRAPLEURAL INJECTIONS OF ETHYLHYDROCUPREINE HYDROCHLORIDE *

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This paper refers to nine cases of pneumococcic empyema. All the patients received intrapleural injections of ethylhydrocupreine hydrochloride (optochin). In four of them rib resection and drainage were done after from four to six injections of ethylhydrocupreine hydrochloride. All recovered completely after operation. Five patients were not treated surgically but made complete nonoperative recoveries. The mortality in the nine cases was nil. Two of the cases treated by injections of ethylhydrocupreine hydrochloride alone have already been reported—one from my service at the Mount Sinai Hospital by Dr. Joseph Edeikin [1] and one from my service at the Jewish Hospital by Dr. S. Rosa Frank.[2] The other three cases are reported here, one, because of the age (4 weeks), in detail. None of the patients treated by ethylhydrocupreine hydrochloride except patient K. (to be considered presently) developed any disabling or serious complications or sequelae, and one or two others developed slight skin infections. These were without unfavorable influence on subsequent complete recovery.

METHOD OF USE

The diagnosis of empyema, having been made in the usual way, was confirmed by roentgen examination and puncture. Cultures were immediately taken from the first pus withdrawn. In all the cases discussed here, pure pneumococci were present. Typing was not done. Subsequent cultures were made of whatever fluid was withdrawn at each aspiration and injection. Roentgenographic studies were made at intervals during treatment and always before discharge from the hospital, and whenever it was possible to do so another roentgenogram was made some weeks after discharge from the hospital. At each aspiration as much pus as possible was withdrawn before the injection was given. Then from 5 to 10 cc. of a 5 per cent sterile, watery, warm solution of ethylhydrocupreine hydrochloride was slowly injected intrapleurally. The solution was prepared in ampules which were warmed and sterilized by immersion in warm alcohol. For both the aspiration and the injection my own specially devised needle was employed.[3] This has been found to be simple in operation and offers a certain means of preventing pneumothorax. No ill effects from the ethylhydrocupreine hydrochloride itself were experienced.

As has been stated, slight infection of the puncture wound occurred in a few of the cases. In one (patient K) this required a small incision and drainage with prompt healing. The organism recovered from the cellulitis in this case was the staphylococcus. In a few others the chest wall around the point of puncture became infiltrated with a small amount of the pleural exudate. This never caused infection of the surrounding chest wall and disappeared with a pressure bandage. The infiltration of the chest wall was due to the escape of pleural fluid along the tract of the needle after the latter was withdrawn. This can be avoided by using a needle with a finer bore, by applying adhesive plaster with traction on the skin in such a manner as to cause the external puncture wound to be out of alinement with the internal wound, or by choosing another site for the puncture close to the last one when succeeding aspirations are made. In no instance did any serious consequences result from these mishaps.

NATURE OF THE SOLUTION AND NUMBER OF INJECTIONS

There are two forms of ethylhydrocupreine [4]—ethylhydrocupreine base and ethylhydrocupreine hydrochloride. The former is insoluble and is recommended to be given by mouth in the early stages of lobar pneumonia. I have not had any experience with it. It is said to produce tinnitus and blindness in toxic doses. The soluble salt was employed in this series of cases.

From three to ten injections were made according to the condition. The injections were repeated about every third day.

EFFECTS

In those patients who recovered without surgery there was a gradual subsidence of fever with improvement in the physical signs. Those cases which were diagnosed late, and in which fever was slight or entirely absent, did not show any increase in temperature. Before the physical signs improved, however, it was noted that in the favorable cases the pleural exudate, which sometimes reaccumulated before final recovery, thus accounting for the persistence of the physical signs, underwent a retrogressive change; the pneumococci, too, became decidedly less and were less viable on culture, and in some cases did not grow at all on culture, although they were recoverable by direct smear. This observation was made by Dr. Davisohn at the Mount

* Read before the Philadelphia Pediatric Society, March 12, 1929.

1. Edeikin, Joseph: M. J. & Rec. **129:** 101 (Jan. 16) 1929.
2. Frank, S. Rosa: M. J. & Rec. **129:** 159 (Feb. 6) 1929.
3. Lowenburg, Harry: M. J. & Rec. **128:** 126 (Nov. 7) 1928.
4. New and Nonofficial Remedies, J. A. M. A. **91:** 1633 (Nov. 24) 1928.

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Sinai Hospital and appears to be indicative of the specific bactericidal or bacteriostatic effect of ethylhydrocupreine on the pneumococcus. The retrogressive change in the character of the fluid referred to consisted in a gradual change of the exudate from a thick pus into a watery fluid which was finally absorbed, disappeared and did not reaccumulate. In some instances the persistence of physical signs depended on a thickening of the pleura, as proved by roentgen examination and negative taps at points where fluid had been previously obtained.

Fig. 1.—Pleural effusion before aspiration and injection of ethylhydrocupreine.

ORIGIN OF TREATMENT

I do not mean to convey the impression that this way of employing ethylhydrocupreine hydrochloride is original with me. I believe, however, that the cases reported constitute the first in which the remedy has been thus employed in America. The only reference in the literature to the method of treatment which I have been able to find is the report of three successful cases by Bussel and Herzfeld. Two subsequent cases treated in this manner required surgery; Gvalka reported five successes in seven cases, and Waringer [5] had 100 per cent recovery in five cases.

REPORT OF CASE

K., a boy, aged 4 weeks, normally delivered, Oct. 6, 1928, and discharged from the hospital on the thirteenth day after delivery, developed a slight cough, showed signs of weakness, and had a weak cry. His temperature never went above 100.2 F. by rectum. His breathing gradually became labored and he suffered attacks of cyanosis. These became worse when he was placed on his left side. He was most comfortable when lying on the right side. He was first seen when 4 weeks of age. The essential observations on examination were complete flatness of the right side of the chest and distant breath sounds over the entire area. The heart was displaced to the left. A diagnosis of pleural effusion was made. Roentgen examination revealed the entire right side of the chest filled with fluid. The roentgenologist thought that there was a very small pneumothorax as well. Puncture returned a thick yellowish purulent fluid. Culture showed a pure growth of pneumococci. Typing was not done.

The etiology of the pleural exudate was not clear. The slight pneumothorax was not diagnosable by ordinary methods. It might have been explained by a rupture of the lung, which would also have explained the effusion. However, the birth history did not reveal any strenuous efforts at resuscitation, and there was no history of birth asphyxia which would have required them. The only case of pneumothorax in the newborn which I have witnessed resulted from rupture of the lung from mouth to mouth insufflation in a case of pallid asphyxia. In this instance the symptoms occurred immediately after birth, the pneumothorax was extremely large and easily recognizable, and death resulted within twenty-four hours. In the present case the infant remained perfectly well for thirteen days after birth; the symptoms followed an ordinary cold, and as there were no clinical signs of pneumothorax, I was inclined to disagree with the roentgenologist's opinion in this respect.

The further history of this case may be briefly summarized by stating that the infant went on to a complete nonoperative recovery following three aspirations and three intrapleural injections of a 5 per cent solution of ethylhydrocupreine hydrochloride varying in amount from 5 to 10 cc. There was a subcutaneous abscess at the point of puncture due to a staphylococcus which yielded promptly to incision and drainage. About three months later the child developed a suppurating cervical adenitis, which was also due to staphylococcus infection and which yielded to incision and drainage. The infant's present condition is excellent and a roentgenogram made March 5, 1929, shows both pleural cavities to be normal. The infant is still being breast fed.

5. Waringer: Ars Medici **10**: 458 (Oct.) 1927; Rev. franç. de pédiat. **2**, 1927.

SUMMARY

1. Of nine patients with pneumococcus empyema thoracis, all received intrapleural injections of ethylhydrocupreine hydrochloride.

2. Four patients later required rib resection and drainage; five patients made complete nonoperative recoveries.

3. There were no deaths in any of the cases, which gives a percentage of recovery of 55.5 of the total 100 per cent recoveries to the cases in which there was no treatment other than aspiration and intrapleural injections of ethylhydrocupreine hydrochloride. This does not necessarily imply, however, that the recoveries were due to ethylhydrocupreine hydrochloride, although the number and the viability of the pneumococci diminished in all the cases in which this agent was used.

4. There was a retrogressive change in the character of the exudate in all of the cases, even in those which eventually came to surgery, from a thick yellowish purulent substance to a thin serofibrinous and watery fluid.

5. Even admitting that this method of treatment has no specific value in itself, one great advantage is that it delays any radical operative procedure until a time long past that when the pneumonia has subsided, which is admitted by all competent surgeons to be a condition sine qua non for recovery, because the development of an acute pneumothorax before a subsidence of the pneumonic disease, when a thoracic wound is present which admits a quantity of air in excess of the vital capacity, rapidly induces a fatal asphyxia. Likewise during this period of treatment it is possible markedly to increase the patient's resistance, his general feeling of well being and even his weight. All of these patients came to the operating table free from fever or almost so, and free from dyspnea. All made a speedy operative recovery. The indication for operation in all of them was a reaccumulation of fluid and the persistence of physical signs. I believe that, in all operative cases of empyema, delay is a great factor in determining recovery. While, with the meager data at hand, it is impossible completely to evaluate this method of treatment, it is felt, for the foregoing reasons, that in all cases of pneumococcic empyema the patients should receive the treatment on the possibility that they may escape operation or, if they do come to surgery, that their chances for recovery may be greatly enhanced.

Fig. 2.—Thorax after nonoperative recovery.

325 South Seventeenth Street.

THE BENIGN COURSE OF APICAL TUBERCULOSIS *

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The main criteria for the diagnosis of early pulmonary tuberculosis have been such evidences of changes in the apexes of the lungs as alterations in resonance and breath sounds or, particularly, the presence of localized râles. Physical signs denoting a lesion localized below the apex have been considered indicative of processes of nontuberculous origin unless prolonged observation or bacteriologic study proves the contrary. These diagnostic principles have practically attained the dignity of a dogma in consequence of having been reiterated time and again in almost every paper and monograph on the clinical aspects of pulmonary tuberculosis that has been published for two or three generations. Nevertheless, investigations of the last five years have demonstrated beyond cavil that the doctrine that the clinician must seek early pulmonary tuberculosis in the apexes is far from being as firmly rooted in fact as has been almost universally accepted. The more carefully the truly early cases are observed, the larger will be the proportion of lesions originating below the clavicle.

Thirty years ago, J. Kingston Fowler,[1] in a thorough study of the pathologic anatomy of the tuberculous lung, pointed out that the earliest lesions are, as a rule, located below the clavicle, and that with the progress of the disease they spread upward toward the apex and then downward to the lower lobes. Clinicians at that time had no means of verifying this observation gleaned while making necropsies. But with the improvement in roentgen-ray technic during recent years and the more frequent utilization of the rays, it has been noted that the earliest tuberculous infiltrations of the lung in active and progressive tuberculosis are most commonly discovered below the clavicle. To be sure there are numerous cases of tuberculosis in which the lesions are limited to the apex, but there appears to be ample evidence that these are usually of little clinical significance and that in the vast majority of cases they are not in need of prolonged treatment. The infraclavicular lesions, on the other hand, are the ones that produce constitutional symptoms of active and progressive phthisis, often leading to a fatal termination. If the roentgen rays are not used for diagnostic purposes, these lesions can only exceptionally be discovered by the usual physical exploration of the chest, skilful and discriminating though it may be. And if active phthisis is to be discovered in its very incipience with a view to instituting prompt treatment, these infraclavicular infiltrations must be searched for.

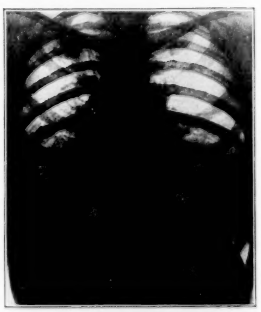

Fig. 1.—Right infraclavicular infiltration in a girl, aged 18 years; disease arrested within eighteen months.

The first to describe these lesions as seen in the roentgenogram was Dr. Harry Wessler[2] in 1923. However, his accurate description apparently did not attract the attention it deserved, and the significance of the primarily infraclavicular localization of the tuberculous process was first generally realized as a result of the extensive investigations of Assmann[3] in 1925. Since then a host of papers have appeared dealing with the "new doctrine" of early localization and spread of serious and progressive tuberculosis. Of these it will suffice to mention those by Braeuning,[4] Lydtin,[5] Redeker,[6] Ulrici,[7] von Romberg,[8] Bacmeister[9] and Aschoff[10] and, in this country, by Fishberg[11] and Douglass and his co-workers.[12] According to these authors, who have given the subject due attention, the first lesion seen on the roentgenogram in active and progressive tuberculosis is in more than 90 per cent of cases located below the clavicle, most commonly toward the axillary region of the lung and in some cases lower down in the pulmonic field, even in the lower lobe, while the apexes remain free from discernible pathologic changes (figs. 1 and 2). With the appearance of these lesions the symptoms of active phthisis are more or less pronounced and the patients cough, have fever, lose weight and may expectorate blood. But these symptoms may for some time remain mild and their significance may be undervalued by the physician, because at this stage the physical signs are entirely negative, or equivocal. Even excavations, which may form very rapidly, cannot be discerned without the aid of the roentgen rays. It thus appears that the really early lesions have hitherto been overlooked. When the physical signs clearly showed an apical lesion, the process had lasted for some

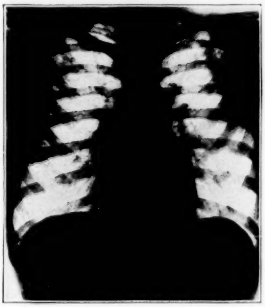

Fig. 2.—Left infraclavicular infiltration with cavitation in a young man, aged 21; process progressive, invading the apex and ending fatally within fifteen months.

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* From the Tuberculosis Division of the Montefiore Hospital, and the Bedford Hills Sanatorium.

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time and extended from the infraclavicular localization toward the apex.

On the other hand, there are numerous patients with apical changes that are undoubtedly of tuberculous origin presenting the classic physical signs of localized lesions, but they keep well for many years even though they cough, expectorate blood at times, and even have tubercle bacilli in the sputum. A large proportion of the patients who do well in sanatoriums and health resorts are of this class. It appears from recent observations that these apical lesions, though unquestionably tuberculous in origin, have a benign course, do not show any tendency to spread, and only rarely develop symptoms of active, progressive and fatal tuberculosis.

TABLE 1.—*Duration of the Disease*

	Infraclavicular Lesions		Apical Lesions	
	Number	Per Cent	Number	Per Cent
Under 1 year.....	28	26.2	8	13.3
1 to 3 years.....	48	44.9	12	20.0
3 to 5 years.....	20	18.7	9	15.0
5 to 10 years.....	9	8.4	12	20.0
10 and over.....	2	1.8	19	31.7

Some authors, notably Braeuning[4] and Lydtin,[5] have shown that tuberculosis of a progressive character develops in less than 10 per cent of these cases of apical involvement. More than 90 per cent of such patients pass through life as tuberculous, but they are little if at all harmed by the lung lesions. Figures 3 and 4 illustrate drastic examples of this type of case.

With a view to ascertaining the validity of these assertions, we have examined the roentgenograms in 1,000 cases of tuberculosis admitted to the Bedford Hills Sanatorium during the last five years and correlated the observations with the clinical histories and course of the disease in each case. As might be expected, in the majority of cases it was impossible to ascertain with any degree of exactitude where the first lesion appeared because of the widespread changes in the lungs disclosed on the roentgenograms. But in 160 cases the roentgen signs were quite clear. Of these we found that in 107 the earliest localization of the lesions was in the infraclavicular region, while in sixty it was confined to the lung above the clavicle.

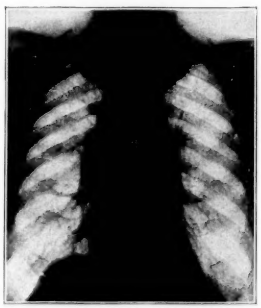

Fig. 3.—Bilateral apical tuberculous lesion in a man, aged 42; duration, ten years. The patient is doing well except for irregular mild exacerbations.

From the figures in table 1 it appears that in patients with apical lesions the disease is more apt to run a slow, intensely chronic or benign course than in those with infraclavicular infiltrations. We find that 31.7 per cent of patients with apical lesions survived ten or more years after the first symptoms of the disease made their appearance; some even more than twenty years. Figures 1 and 2 illustrate the condition of the lungs in such cases: Despite the extensive involvement of the apexes, the patients felt fairly well for more than twenty years. They had been to many institutions, admitted repeatedly as suffering from "early," quiescent or arrested apical lesions, and discharged without any change, except that their general condition had improved after the sanatorium regimen for a few months. In the infraclavicular group, only 1.8 per cent lived that long. One out of three with apical lesions survived more than five years, as against one out of ten with infraclavicular infiltrations. We thus have in this material support for the clinical observation that infraclavicular lesions are apt to progress more rapidly than apical processes. In fact, patients with lesions limited to the apical region commonly give a history of several attacks which may or may not have been recognized as tuberculous in character. Many patients with extrathoracic tuberculosis, as of the bones, glands and kidneys, are remarkably free from active lung lesions. But a careful examination, especially with the aid of the roentgen rays, usually discloses a lesion in the apexes which does not show any tendencies toward activity.

Fig. 4.—Bilateral apical tuberculous lesion of twenty-five years' duration which has calcified; onset at the age of 20.

It is different with early infraclavicular infiltrations. In many the process is soon absorbed; even excavations which have formed quickly may disappear, as was shown elsewhere by one of us,[11] as well as by many others. But in the majority of cases the onset is more or less acute, the course is progressive, and within a few weeks or months the clinical picture of chronic phthisis is presented. It is these cases, when recognized in time, which are best suited to therapeutic pneumothorax and which are likely to be favorably influenced by this treatment.

A compilation of the data obtained from the histories of our patients as to the age when the first symptoms of the disease made their appearance shows that 30 per cent of those with infraclavicular infiltrations began to feel sufficiently ill to seek medical advice before they reached the age of 20, as against only 13 per cent of those having apical lesions. On the other hand, 11 per cent of those bearing infraclavicular lesions noted the first symptoms of the disease after reaching 35 years of age, as against 32 per cent with apical lesions. The detailed figures are given in table 2.

It thus appears that infraclavicular lesions occur mainly in adolescents and young adults; nearly 90 per cent of cases occur in persons under 35 years of age. For this reason some authors have been inclined to view these lesions as due to exogenous reinfections. In favor of this view is the fact that many cases are seen in persons who for one reason or another have come in contact with virulent tubercle bacilli from patients with open tuberculosis, such as medical students and bac-

teriologic laboratory workers, nurses and orderlies in hospitals, and relatives of tuberculous patients. But it must be borne in mind that these are the very persons most likely to submit to early physical, roentgen and bacteriologic examinations, and if infraclavicular infiltrations are to be diagnosed in time all these diagnostic procedures, especially the roentgen examination, must be done early.

Open tuberculosis, i. e., cases in which tubercle bacilli can be demonstrated in the sputum, is more common in

TABLE 2.—*Age at Which First Symptoms Made Their Appearance*

	Infraclavicular Lesions		Supraclavicular Lesions	
	Number	Per Cent	Number	Per Cent
Under 20 years	36	33.7	8	13.3
20 to 25 years	29	27.1	14	23.3
25 to 35 years	30	28.0	19	31.7
35 to 45 years	9	8.4	12	20.0
45 and over	3	2.8	7	11.7

patients with infraclavicular lesions than in those with apical lesions. Thus in seventy-one out of 107 cases, or in 66.4 per cent of infraclavicular lesions, we found tubercle bacilli in the sputum, while in the sixty patients with apical tuberculosis only seven, or 15 per cent, had sputum positive for tubercle bacilli, and in 85 per cent it remained negative during their stay in the sanatorium. This would indicate that from the prophylactic standpoint patients with apical lesions are not as great a menace as those bearing lesions below the clavicle.

It also appears that patients with apical lesions are less likely to present marked constitutional symptoms of activity and progressiveness of the disease than those with infraclavicular lesions. Thus, as is well known, many sanatorium patients are afebrile while in the institution. It appears that the greater the number of patients with apical tuberculosis, the larger the number that are afebrile. In our series it was found that 70 per cent of those with apical lesions were afebrile, while of the infraclavicular group only 42 per cent had no elevation of the temperature. This again points to the relative benignity of apical lesions.

It is different with hemoptysis. The patients with apical lesions were just as apt to expectorate blood as were those with lesions below the clavicle, though copious hemorrhages are more likely to occur in the

TABLE 3.—*Occurrence of Hemoptysis*

	Supraclavicular Lesions		Infraclavicular Lesions	
	Number	Per Cent	Number	Per Cent
None	28	46.7	42	39.2
Streaked sputum	15	25.0	23	21.6
Hemorrhages	17	28.3	42	39.2

latter group. This point is shown by the figures given in table 3. These figures also confirm an old clinical observation that streaked sputum and mild pulmonary hemorrhages do not influence the prognosis of chronic pulmonary tuberculosis unfavorably. It is mainly in apical lesions that they are observed.

SUMMARY

Pulmonary tuberculosis with the lesion located in and limited to the apex usually has a benign course, and in many cases there is no urgent need for prolonged and costly treatment. Though the physical signs as well as the roentgenographic changes may persist for many years, the patient survives and may be able to attend to his work, even though in a limited way and suffering at irregular intervals from exacerbations which are usually mild and abate soon.

When the initial tuberculous lesion is found, usually with the aid of the roentgen rays, to be localized below the clavicle, it is of greater clinical significance and in most cases needs immediate attention, be it institutional or climatic. Such cases almost always occur in young persons under 35 years of age.

Patients with apical lesions generally have less marked constitutional symptoms, especially fever. Pulmonary bleeding occurs in both groups, but those with lesions below the clavicle are more apt to bleed copiously. Open tuberculosis is found in only 15 per cent of apical, as against 66.4 per cent of infraclavicular, lesions.

1136 Fifth Avenue.

THE SCREW CURET

ITS USE IN THE CURETTAGE AND IN THE EXCISION OF FISTULOUS TRACTS *

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Persistent fistulas of the urinary tract and elsewhere fail to close often as a result of unhealthy granulation tissue that lines the lumen. Various

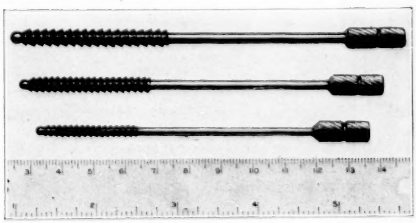

Fig. 1.—Young's screw curets, used for curetting fistulas and also as tractors for the excision of fistulas.

methods have been employed since time immemorial to hasten the closure of these troublesome conditions, among which cauterization and curettage have played an important part. The objection to cauterization, especially with the silver nitrate stick, is that slough is produced which must come away before healthy granulations can spring up and lead to closure. Curettage has the advantage that no sloughs are produced, but considerable difficulty has been experienced with the ordinary spoon curet in thoroughly and systematically removing the granulation tissue that lines the fistulous tract. Not infrequently the sharp spoon penetrates the wall of the fistula and produces false tracts, and portions of the fistulous tract may entirely escape the curet. In the case of very minute fistulas, it may be impossible to introduce even fine curets into the depths of the fistula, and the difficulty is always experienced in curetting all sides of the tract. Urinary fistulas—perineal, suprapubic and renal—offer difficult

* From the James Buchanan Brady Urological Institute, Johns Hopkins Hospital.

problems because of their connection with an infected organ (bladder or kidney) and the presence of urine, both of which tend to keep up the unhealthy condition of the fistulous wall and to prevent closure.

Realizing the difficulties in inducing such fistulas to close, I devised several years ago a small screw curet which could be introduced into even very fine fistulas, and used it effectively for curettage. Different models have been made from time to time, and I here present the latest models in the form of a set of graduated curets, as shown in figure 1. As seen here, the curet consists of a screw, which has a sharp cutting edge turned backward, so that when the instrument has been screwed into the depths of the fistula it acts as a curet to remove granulation tissue in the fistulous tract when forcibly withdrawn. In order to avoid penetration of the fistulous wall and invasion of adjacent tissues and organs, the screw terminates in a small ball. I have employed these instruments in many different types of fistula in various parts of the body.

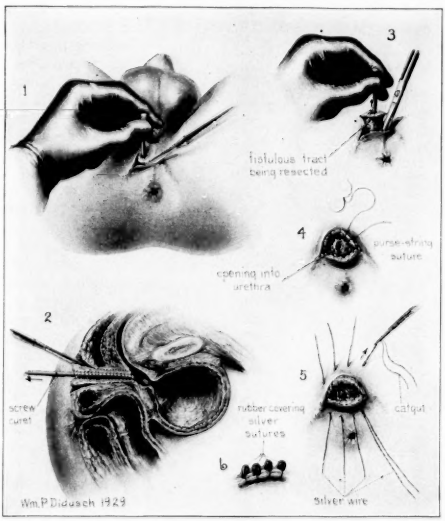

Fig. 2.—Use of Young's screw curet in the excision of perineal urinary fistula: At 1, the screw curet is inserted and excision started; 2 and 3 show the extent of the fistula and resection; 4, purse-string catgut sutures being placed at the urethral opening; 5, closure of the skin and deeper tissues with silver wire pulled through by catgut; 6, rubber tube covering the silver sutures.

TECHNIC

If the fistulous opening is pinpoint in size, this is dilated or perhaps incised, so that the smallest curet may be introduced and screwed into the tract. The curet should be introduced to the very bottom of the tract, unless there is some important contraindication. One may determine beforehand by means of a fine probe the depth to which the fistula goes. In the case of perineal or suprapubic fistulas, one knows beforehand about the depths required to reach the urethra or bladder. In curetting the perineal fistulas, one is careful to see that the instrument is directed properly toward the urethra and not toward the rectum. In the hundreds of cases in which I have used this instrument, I have never yet injured the rectum. In suprapubic fistulas the curet should be directed somewhat downward and not toward the peritoneum, and here again its employment has been found entirely safe.

When the curet has been screwed into the depths of such a fistula, it is withdrawn by a quick, forcible pull, so as to cut away the granulation tissue and remove as much as possible of such unhealthy tissues. After one or two such procedures, it is usually possible to introduce the second instrument and repeat the technic. In some cases the third instrument may then be employed with advantage. Sometimes, by a to and fro motion, more thorough curettage may be carried out, the spaces between the threads being freed from time to time of the granulation tissue that fills them up. In scrotal and groin cases it may be desirable to insert a very small pack along the fistulous tract to arrest hemorrhage and facilitate closure, the pack to be removed on the following day, and usually not reinserted. In fistulas of the urethra, it may sometimes be desirable to use an inlying catheter to divert the stream of urine and hasten closure, but as a rule it is inadvisable to insert the catheter until after two or three days, as the fistula will frequently heal quite well without the use of a catheter. The same thing is true in regard to suprapubic-vesical fistulas. Before curetting a fistula, it is important to treat thoroughly the fistulous tract with antiseptics, the object being to prevent sepsis occurring, and immediately after the currettage the wound should be thoroughly treated antiseptically. We usually employ 1 or 2 per cent solution of mercurochrome-220 soluble, but other noncauterizing, bland but effective germicides may also be employed. Strong silver nitrate or other caustics that produce necrosis of the tissues are usually to be avoided. My experience with these curets, now extending over several years, has been satisfactory, especially in the cure of persistent pinpoint urinary fistulas.

EXCISION OF FISTULOUS TRACTS WITH AID OF THE SCREW CURET

In some cases the presence of a very fibrous, thick walled fistulous tract requires excision, and it may be desirable to close the opening into the urethra or bladder with sutures after excision of the fistulous tract has been carried out. There is some danger in cutting into the perineal cavity in the excision of suprapubic fistulas or of injuring the rectum in attacking perineal fistulas. To avoid this I have for many years employed a probe within the fistula and have made traction by clamps on the fibrous tract, while it is gradually freed from adjacent structures by sharp dissection with the scalpel. Such traction, however, is not satisfactory, and in some instances it is impossible to pass the probe to the depths of the fistula. I have recently found the screw curet of great assistance in these operations. The procedure that has been followed is to screw the curet into the fistulous tract until the depths are reached, a curet of sufficient size being used to engage firmly the wall of the fistula, so that vigorous traction can be made.

The use of the screw curet for traction in the excision of fistulas is shown so graphically in figure 2 that little description is necessary. The curet at 1 is shown

screwed deeply into the perineal urinary fistula, which extends in the scar of a perineal prostatectomy from the perineum to the prostatic urethra. In this case a circular incision was made around the fistula so as to resect it with a sufficient amount of fibrous tissue. At 2 one sees the scalpel continuing the dissection. The operator was able to tell at any time the thickness of the wall separating him and the curet in the fistula. In this way he is certain that he is not injuring structures that he wishes to avoid, such as the rectum behind, and the triangular ligament and external sphincter in front. Scissors may be used advantageously. The traction sutures covered with rubber to protect the patient, is shown at 6. It is not, however, the usual practice to close the skin wound completely, but to provide a small amount of drainage externally. If the deeper portion of the wound, which has been closed by several layers of buried catgut sutures, heals completely by first intention, there is no difficulty in getting early closure of the superficial wound, which has been lightly packed; and, if the skin wound is closed, suppuration may occur between the skin and deeper portions of the fistula, which may cause the deep sutures to break down and the fistula to open up.

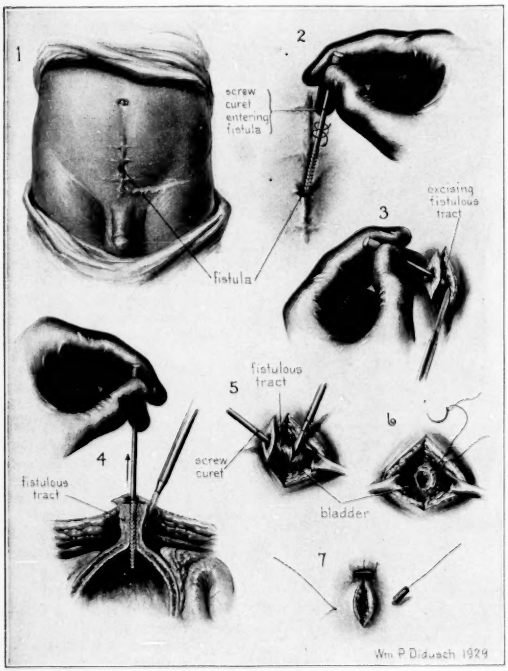

Fig. 3.—Use of the screw curet in the excision of suprapubic urinary fistula: 1, 2, inserting the screw curet; 3, excising the fistula; 4, extent of the dissection; 5, cutting into the bladder; 6, closure of the vesical opening; 7, approximation of the skin and muscles.

If the perineal fistula passes very close to the rectum, one may insert a finger to be doubly sure that the rectum is not injured; but, with the curet in the lumen of the fistula, one can always determine exactly where one is cutting and can avoid cutting too far away from the fistulous tract and into dangerous regions. This applies not only to the bowel wall but also to the region of the external sphincter and triangular ligament, which should not be injured in the resection of fistulas. In one of my cases, the fistulous tract, beginning in the anterior part of the perineum, ran beneath the transversus perinei muscle and connected with the urethra posterior to the triangular ligament. In this case I was able to dissect out the tract and avoid injury of the muscles and possibly resultant incontinence.

In the excision of a suprapubic fistula, care should be taken to avoid cutting too widely from the fistulous lumen superiorly, else the peritoneum may be opened. The screw curet used as a tractor makes it possible for the operator to know exactly where he is cutting, thus enabling him to make incision fairly close to the fistula and thus avoid the peritoneum. The use of the screw curet in excision of a persistent mucocutaneous suprapubic urinary fistula is shown in figure 3. The conditions present in this case are shown at 1. At 2 the curet is seen entering the fistula. At 3 the resection of the fistula tract is shown, and a longitudinal section is given at 4. When the fistula has been completely freed down to the bladder, palpation will indicate the presence of the bladder. The operator then cuts directly into that viscus and completes the removal of the fistulous tract. In this case the opening into the bladder was closed with a continuous purse-string chromic catgut suture, as shown at 6. The muscles, fascia and skin are drawn together by deeply placed silver wire sutures tied around rubber tubing externally. A minute drain at the lower angle of the wound was provided and the bladder drained simultaneously with a retention catheter. Healing by first intention was obtained in the cases illustrated in figures 2 and 3. In many cases of suprapubic fistula, thorough curettage followed by the insertion of a retention catheter in the urethra is usually sufficient to lead to prompt healing. If the amount of suprapubic fibrous tissue is great and the fistula mucocutaneous in character, and the tissues beneath the suprabubic scar are rather thin, the bladder being close to the surface, complete excision of the

continued brings up the deeper portions of the fistula nearer the surface. After the entire tract had been thus excised in the case illustrated, I took a purse-string suture of plain catgut around the urethral orifice, which was thus inverted and closed. A second line of catgut sutures to bring together the soft muscle over the first purse-string suture was employed. The final closure was effected with silver wire sutures, which went deeply through skin and subcutaneous tissues, as shown at 5. It was found much easier to introduce these sutures, if the operator first employed heavy catgut with a sharp cutting needle, the needle being removed and the knot tied, and the silver wire thus drawn through. Complete closure, with the silver

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fistulous tract, as shown in figure 3, is the better procedure.

In fistulas of the scrotum, a similar technic is employed with closure of the urethra at the point of juncture. When the fistula is in the pendulous urethra, it may be desirable to apply the principles used in hypospadias operations and to cover the wound with flaps after closure of the urethral lumen in two or three layers.

It is rarely necessary to excise renal fistulas. Thorough curettage with the screw curet is usually sufficient to effect a cure. If the kidney is infected and purulent urine is escaping through the fistula, an inlying ureteral catheter and pelvic lavage may be of great assistance in effecting a closure. In such cases not infrequently there may be a kink or stricture of the ureter, producing obstruction and forming the underlying cause of the persistence of the urinary fistula. Pyelo-ureterograms will usually elicit information sufficient to clear up such a condition. In such cases it may be desirable to expose the kidney, correct the ureteral or pelvic deformity, and thus facilitate the closure of the renal fistula.

Ureteral fistulas present similar problems and are treated in much the same way, efforts first being made to induce their closure by thorough curettage, assisted, if advisable, by placing an inlying ureteral catheter. In my experience, however, ureteral fistulas are extremely rare.

Fistulas in other parts of the body may often be effectively treated with these screw curets of various dimensions. I have satisfactory reports from surgeons who have used them in other parts of the body, viz., sinuses of the chest wall, sinuses leading to bones and joints, and operative sinuses of the antrum, but I will not attempt here to discuss the problems involved in the curettage or resection of such fistulas; the general principles and technic are the same.

CONCLUSIONS

A set of new curets based on the principle of the screw have proved of value in the curettage of fistulous tracts, especially the small or "pin-point" urinary fistulas, in many cases. They can be used with facility and accuracy in the removal of granulations lining the entire length of a small fistulous tract. In the excision of fistulous tracts, both to show the position of the lumen and to afford traction, they are helpful. By their use, long small fistulous tracts may be resected with facility.

The "Commanding Officer" Against Disease.—The general physician for a time was swept off his feet and greatly bewildered on account of the sudden growth of the specialties and his apparent loss of standing and patronage. He awoke to find every region of the human body preempted and staked off. What had formerly been his sole care had apparently been taken over by specially trained doctors. He not only wondered what finally would be left for him to do but what the present status of his medical activities really was. He failed to fully realize and appreciate the fact that it was but the natural result of modern advance in medical science and a part of an orderly well organized and highly developed battle front against the hosts of disease and that he, whether he realized it or not, still did and should occupy the position of commanding officer and that he alone was responsible for the preservation of cohesion and harmony in the forces marshaled against disease.—Owen, F. S.: Specialization: Its Present Status and Its Logical Relation to the General Practice of Medicine, *Nebraska M. J.*, June, 1929.

Clinical Notes, Suggestions and New Instruments

UNUSUAL CONGENITAL DEFORMITIES OF THE UPPER EXTREMITIES

ABSENCE OF THE RADII WITH OLIGODACTYLIA

WILLIAM N. LACKEY, M.D., GALLATIN, TENN.

The form of congenital arrested development resulting in the absence of the radius from each forearm with all the fingers missing except the first finger constitutes a deformity, I think, of sufficient rarity to merit a report.

Fig. 1.—Lateral view of right forearm, containing one bone, the ulnar, and one well developed finger.

Fig. 2.—Bones of the right arm, showing the ulnar, the three phalanges, one metacarpal bone but no carpal bone in the wrist.

REPORT OF CASE

R. M. L., a negro schoolboy, aged 8 years, born in Gallatin, Tenn., after a normal labor, was said by Dr. J. N. Rucker, to whom I am indebted for permission to report this case, to have weighed 5 pounds (2 Kg.) at birth, and not to have appeared able to survive.

At the time of the birth of the child the father was about 40 years of age and was said to be in good health. The mother was only 17 at the time, weighed 140 pounds (63.5 Kg.) and was

in good health. Her pregnancy was normal in every way, though she was not very happy during this period as her husband often struck her and otherwise treated her in a cruel manner.

The mother from some cause was unable to nurse the child, and the grandmother, without advice from the physician, gave the child a brand of condensed milk. Four months after the child's birth the mother developed active tuberculosis, from which she died in a few months.

At 6 months the child weighed 8 pounds (4 Kg.). Dentition was slow. The child began to talk at 1 year, but could not sit alone until the second year, and did not walk till it was 4 years old.

At examination the child was not well nourished; he weighed 42 pounds (19 Kg.) and his height was 46¼ inches (117 cm.), so that he was underweight about 7 pounds (3.2 Kg.) for his weight and age. The circumference of the head was 20¾ inches (52 cm.), the chest measured 22 inches (55 cm.) and the waist, 23 inches (58 cm.). The lower extremities and genitalia were normal. The tonsils were enlarged and diseased, and there were many enlarged glands in the neck. The child's intelligence was above the average for his race and age. He attended school and had learned to make his letters by holding the pencil in the crook of his right elbow, guiding the point of the pencil with the finger of the left arm. He fed and dressed himself and did many other surprising things with his deformed arms and one finger. The shoulder joints were normal. In order to compensate for the greatly restricted motion in the right elbow and the ankylosis of the left elbow, the patient held objects against his chest with his forearms; this tended to pull the shoulders forward and depress the chest, making him round-shouldered.

The length of the left humerus was 6⅞ inches (17.5 cm.); the length of the left forearm, 4 inches (10 cm.), and the circumference, 3 inches (7.5 cm.). The ulnar was fused to the humerus at an angle of 25 degrees. It articulated with an imperfectly developed wrist at a 30 degree angle. The wrist contained one beginning carpal bone. The finger was 1½ inches (4 cm.) long and had only two phalanges. There was one metacarpal bone. The wrist and finger both had a very restricted range of motion.

Fig. 3.—Front view of left arm containing only the ulnar and an imperfectly developed finger. The ulnar is fused with the humerus at the elbow.

The length of the right humerus was 7½ inches (19 cm.); the forearm was 5 inches (12.5 cm.) long, and the circumference was 3 inches (7.5 cm.). The elbow joint was freely movable, though flexion and extension were limited to 2 inches (5 cm.) by the soft tissues around the joint. The finger on the right arm was 1¾ inches (4.5 cm.) long and much better developed than the one on the left arm, as it had the normal three phalanges. There was one metacarpal bone. The roentgenogram did not show any bones in the wrist. The wrist was quite freely movable, and with the finger had a greater degree of motion than the left wrist and finger.

COMMENT

According to Pfaundler and Schlossmann,[1] congenital ankylosis of the elbow joint with complete or partial defects of the bones

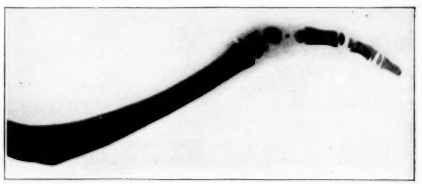

Fig. 4.—Left arm, showing ankylosis of elbow joint and the one bone in the forearm, the ulnar. The left finger has only two phalanges, one metacarpal and one beginning carpal bone. (Roentgenograms by Dr. J. R. Parker.)

of the forearm constitutes arrest of development which is rather rare. The same authors say: "The missing radius is more frequent than the ulnar, and it often occurs in conjunction with club-hand with ankylosis of the elbow joint. Congenital deformities of the fingers may vary from incomplete or diminished numbers (oligodactylism) to atavistic retrogression to supernumerary numbers (polydactylism). Webbed fingers (syndactylism), secondary fissures, etc., may give rise to most varied pictures. The biological factors is common to all that they owe their origin to an abnormal course of development in which heredity plays an important part."

Guthrie Building.

AN ORGANISM ISOLATED FROM TWO CASES OF "HAIRY TONGUE" *

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ROCHESTER, MINN.

Our chief object in this report is to record the isolation in two cases of "hairy tongue" of an organism which is evidently related to the one found by Weidman[1] in a similar case; there are, however, certain cultural differences.

REPORT OF CASES

CASE 1.—A woman, aged 59, came to the Mayo Clinic in September, 1928, because of trouble with her tongue. Two months before, a small cut, simulating a tooth mark, had appeared on the right side of the tongue and a small blue mark had become visible just above the cut. She had consulted a physician who had applied silver nitrate to the lesion. The patient then had gone to several other physicians who had used or prescribed various substances for local treatment, including various mouth washes containing phenol, alum and nitric acid. There had not been any improvement of the condition. Three weeks after the onset, and following medicinal applications, the tongue had begun to be coated. Soreness had not been present until after medication. The soreness gradually had disappeared but a bad taste had persisted. When the patient was examined, she said that her tongue felt large, tender, thick and out of place.

Six months before the patient was seen at the clinic all her teeth had been extracted. Thereafter she had lost 15 pounds

1. Pfaundler, M., and Schlossmann, A.: The Diseases of Children, Philadelphia, J. B. Lippincott Company **5**: 101-102, 1912.

* From the Section on Clinical Pathology and the Section on Dermatology and Syphilology, the Mayo Clinic.

1. Weidman, F. D.: The Affinities Between Black Tongue and Trichomycosis, Arch. Dermat. & Syph. **18**: 647-665 (Nov.) 1928.

(6.8 Kg.), which she attributed to inability to use her false teeth properly. She had only a temporary set of plates which did not fit well and seemed to draw. Her daughter volunteered the information that the patient was in the habit of falling asleep with the plates in her mouth and that originally perhaps she had bitten her tongue. Since the onset of the trouble her appetite had been poor. The bowels had been constipated since extraction of the teeth. For many years she had experienced shortness of breath on exertion, with occasional palpitation of the heart. She had been nervous all her life.

On general examination the patient was found to have essential hypertension of the benign type and adenomatous goiter, with mild hyperthyroidism. The basal metabolic rate was + 21. Thyroidectomy was advised. Other abnormalities were not found in the general examination. Dermatologic examination was negative except for the tongue; this presented a striking appearance. The entire dorsum was covered with a light brown furry material which resembled in appearance the mohair used in upholstery. The red of the tongue could be seen at the base of the furry projections. The hairy character of the tongue became apparent only when the saliva was wiped away. The gums were edentulous. The larynx was normal. Observations on posterior rhinoscopy were not satisfactory.

The furry material was adherent, and very little could be removed by scraping with the ordinary smooth wooden tongue depressor. Material was removed with a dermal curet and the so-called hairs were studied microscopically both under water and in preparations of 20 per cent potassium hydroxide solution. They varied from 3 mm. to 1.2 cm. in length. Under low power magnification the resemblance to a true hair was striking, but more careful study showed the hairs to be made up of epidermal scales. The appearance corresponded in detail to descriptions given by Heidingsfeld,[2] and recently by Weidman. There were numerous coccus-like bodies, but a careful study did not reveal mycelia or organisms that could be identified as fungi. A more detailed study of fresh preparations was not possible at the time. Biopsy was refused.

Cultures from the tongue were made on dextrose-agar slants. In about a week there appeared fairly numerous, round, capitate

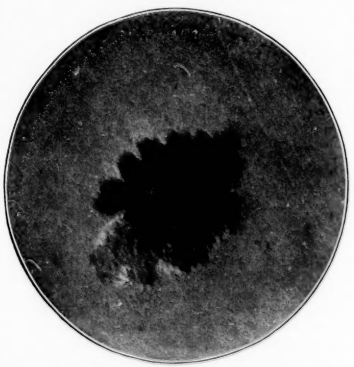

Fig. 1 (case 1).—Appearance of colony on dextrose agar (× 25).

colonies about 1 mm. in diameter, with a dull surface. Under the microscope, at a magnification of 100 diameters, short filaments were seen projecting from the margins of these colonies. Pure cultures were obtained by streaking plates of the same medium. The colonies, after three days, were 1 mm. in diameter, raised, with filamentous margins (fig. 1), and were transparent at first. After a week they became opaque and milky in appearance. The heaped-up centers seen in the original culture were lacking.

2. Heidingsfeld, M. L.: Hairy or Black Tongue, J. A. M. A. **55**: 2117-2123 (Dec. 17) 1910.

In dextrose broth and in nutrient broth there was moderate clouding in twenty-four hours, followed by sedimentation, so that the supernatant fluid was clear after three or four days. A ring or pellicle was not formed. A stained preparation made from the sediment in broth cultures is shown in figure 2; the long and short bacillary forms and the filaments are visible. Gram-positive and gram-negative elements were common in the same preparation. Stains made from agar differed from those made from broth only in that fewer mycelial forms were seen in the former. The irregular granular appearance was common

Fig. 2 (case 1).—Organism obtained from sediment in broth cultures (Gram's stain; reduced from a photomicrograph with a magnification of 1,000 diameters).

to all cultures examined, but branching forms were not found although careful search was made for them.

In the gelatin stab culture a slight filiform growth appeared in two days, but there was no liquefaction after thirty days. On both dextrose-agar and nutrient-agar slants, after forty-eight hours, there was a thin transparent streak made up of tiny discrete colonies. There was no discoloration of the medium.

The growth on Loeffler's blood serum was scanty and barely visible. The best growth was obtained on blood agar, although there was no visible effect on the blood. The growth on potato medium, after two days, appeared as a thin moist streak visible only with a hand lens. After ten days this had become a thin, tenacious light yellow layer.

There was neither acid nor gas in the following sugar broths after twenty-one days: dextrose, maltose, mannitol, lactose, saccharose and dextrin. In bromcresol purple milk there was slow production of acid but no coagulation after three weeks. Smears from the milk culture, stained by Gram's method, showed long filamentous forms with irregular staining; numerous gram-positive granules in gram-negative filaments were present. In broth cultures the mycelia were much more abundant than on agar, on which bacillary forms predominated. Both gram-positive and gram-negative elements were common in all smears. Clear evidence of true branching was not seen in any of the cultures. The suggestive appearance in figure 2 seemed, under the microscope, to be the chance juxtaposition of mycelia and bacillary forms. The organisms were not acid-fast.

The principal differences between this culture and the one described by Weidman are the lack in this culture of production of pigment, failure to form a pellicle on broth, and absence of branched forms in smears. The organism evidently belongs in the genus *Actinomyces*, according to the classification of the Society of American Bacteriologists.

CASE 2.—This case differed from case 1 principally in that the tongue was not as heavily covered with "hairs." The other clinical features did not seem to be especially significant. The organism in this case was identical culturally with that obtained in case 1.

LEUKONYCHIA STRIATA *

E. W. NETHERTON, M.D., CLEVELAND

That white spots and streaks may appear in the nails is common knowledge among both the medical profession and the laity. Perhaps because of an old superstition they are often spoken of as "gift" or "fortune" spots by the latter. These spots and streaks are chalky-white deposits in the nail substance and first appear near the lunulae, gradually moving toward the free margin with the growth of the nail. At one time they

Fig. 1 (case 1).—Marked case of leukonychia striata caused by too vigorous manicuring.

were thought to be caused by the infiltration of air into the nail substance, but Heidingsfeld[1] has shown that they are due to the failure of cells to undergo complete keratinization. His observation was confirmed by Sibley.[2]

Unna has divided leukonychia into three groups: (1) leukonychia punctata (spots); (2) leukonychia striata (bands), and (3) leukonychia totalis, in which the whole nail is involved. Leukonychia may result from malnutrition, febrile disease, trauma or any agency that disturbs the growth, development or keratinization of the matrix cells in their change into nail substance. Of these, trauma is no doubt the most common cause.

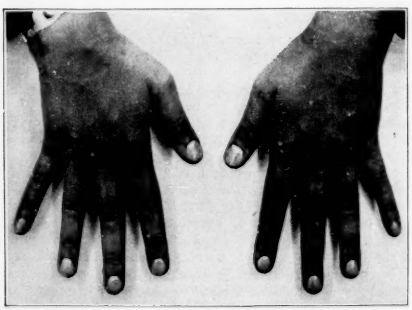

Fig. 2 (case 1).—Return of the nails to normal after care had been taken not to traumatize the matrix.

Leukonychia punctata is very common and is not often given serious consideration by either patient or physician. Leukonychia striata may become so disfiguring, however, that medical advice will be sought. Heidingsfeld thinks that this condition is not so rare as it was once considered to be, and that in most cases it results from trauma to the matrix caused by pushing back the fold of skin with sharp instruments in manicuring.

I became especially interested in this condition three years ago when a young woman consulted me because of white striations on her finger-nails, which were so noticeable that they caused her embarrassment and even made her avoid social engagements. Since observing this case I have seen several others which presented the same condition but to a lesser degree. In all these cases the leukonychia was due to trauma of the matrix caused by too strenuous manicuring, and it cleared up when care was taken to treat the nails more gently.

Miss E. U., aged 24, American, consulted me, Oct. 10, 1926, because of white bands on her finger-nails (fig. 1). There was no familial history of the condition. She had had measles at 4 years of age, mumps at 5, and diphtheria at 10, and at 18 she had been treated for chlorosis.

The white bands on the finger-nails had been present for a year before she consulted me. She had been in good health and had no complaint except for the embarrassment caused by

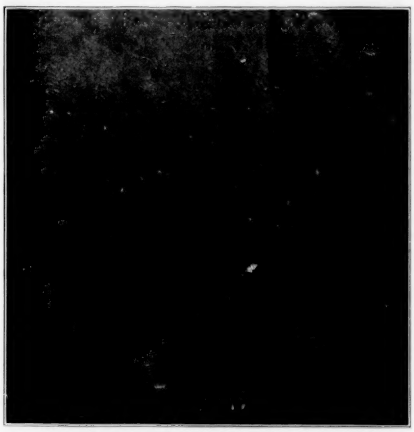

Fig. 3 (case 2).—A case of leukonychia striata in which the condition resulted from too vigorous manicuring but was less marked in degree. This also cleared up when more care was taken in manicuring. This case represents a not infrequent type of leukonychia striata.

the condition of her nails. With the exception of the finger-nails, a general physical examination did not show anything abnormal. The toe-nails were not affected. All the nails of both hands presented chalky-white bands, which she said first appeared near the lunulae and grew forward with the growth of the nails. They involved the central portion of the nail and did not extend to the lateral margin; and they were strikingly similar as to location and size, with an even spacing between them on all the nails. This obviously suggested that whatever the cause, it occurred at regular intervals.

The patient said that she was in the habit of manicuring her nails every ten days, using an orangewood stick to push back the fold of the skin. She never used a knife for this purpose. She was advised to stop traumatizing the matrix with the orangewood stick, and the bands ceased to appear. When she was last seen, March 30, 1927, her nails were normal (fig. 2).

Another case of leukonychia striata which was similar except that it was less severe is illustrated in figure 3. In this case also there was no familial history of the condition. There had not been any previous illness that could account for it, the toe-nails were not affected, and the white bands disappeared promptly when care was taken not to traumatize the fold of skin with the orangewood stick.

* From the Cleveland Clinic.

1. Heidingsfeld, M. L.: J. Cutan. Dis. **18**: 490, 1900.
2. Sibley, W. K.: Brit. J. Dermat. **23**: 281, 1911.

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Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

AMPOULES OF PITRESSIN.—An aqueous solution containing the pressor and diuretic-antidiuretic principle of the posterior lobe of the pituitary gland (betahypophamine) containing less than 1 unit of oxytocic activity per cubic centimeter. Five-tenths per cent of chlorbutanol is used as a preservative. It is standardized by the method of Hamilton and Rowe (*J. Lab. & Clin. Med.* **2**:120 [Nov.] 1916) so that each cubic centimeter contains 20 pressor units (1 unit represents the pressor activity exhibited by 0.5 mg. of standard powdered pituitary-U. S. P.).

Actions and Uses.—Ampoules of pitressin are used for temporary stimulation of blood pressure, for increasing the muscular activity of the bladder and intestinal tract, also for antidiuretic effect in diabetes insipidus.

Experimental evidence has been obtained indicating that the product increases the blood sugar and it has been successfully employed to counteract overdoses of insulin in animals. No clinical studies to determine the value for this purpose have been reported so far. It has been suggested that the product may be of value either in conjunction with or supplementary to the use of epinephrine in the treatment of serum sickness and similar vasomotor disturbances, but no definite evidence on this point is as yet available.

Dosage.—From 0.3 to 1 cc. (5 to 15 minims) intramuscularly, repeated as may be indicated.

Manufactured by Parke, Davis & Co., Detroit. U. S. patent and trademark applied for.

Ampoules of Pitressin, 1 cc.: Each ampule contains more than 1 cc.

AMPOULES OF PITOCIN.—An aqueous solution containing the oxytocic principle of the posterior lobe of the pituitary gland (alphahypophamine) containing less than ½ unit of pressor activity per cubic centimeter. Five-tenths per cent of chlorbutanol is used as a preservative. It is standardized by the U. S. P. method for pituitary, each cubic centimeter containing 10 international units.

Actions and Uses.—Ampoules of pitocin are used to stimulate uterine contractions for obstetric purposes.

The use of the product may be particularly indicated in those cases in which increase of blood pressure or contractile action of the vascular system is undesirable. Its use is contraindicated in contracted pelvis and incomplete dilatation of the cervix.

Dosage.—From 0.3 cc. to 1 cc. (5 to 15 minims) intramuscularly. If used before delivery is completed, small doses are used, repeated if necessary in twenty to thirty minutes.

Manufactured by Parke, Davis & Co., Detroit. U. S. patent and trademark applied for.

Ampoules of Pitocin, 1 cc.: Each ampule contains more than 1 cc.

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

W. A. PUCKNER, SECRETARY.

GLUCO-DEXTRIN NO. 1, GLUCO-DEXTRIN NO. 2, AND GLUCO-DEXTRIN NO. 3 NOT ACCEPTABLE FOR N. N. R.

Gluco-Dextrin No. 1, stated to be "Dextrose 45.75%, Dextrin 51.86%, moisture Q. S.," Gluco-Dextrin No. 2, stated to be "Dextrose 39.50%, Dextrin 45.61%, Lactic Acid 12.50%, moisture Q. S." and Gluco-Dextrin No. 3, stated to be "Dextrose 45.75%, Dextrin 51.86%, Potassium Bicarbonate 2%, moisture Q. S.," are marketed by the West Manufacturing Company. The first is apparently nothing more nor less than glucose U. S. P.; the second and third are apparently the same, with the addition of lactic acid U. S. P. and potassium bicarbonate, respectively. There appears to be no good reason why an official article and mixtures of official articles should be marketed under these proprietary names.

A number of unwarranted therapeutic claims are made in the advertising for these products. In a submitted booklet entitled "Making Up the Carbohydrate Deficiency for Bottle Fed Infants with the minimum Gastro-intestinal disturbances," it is stated that "it is utterly impracticable to attempt to feed infants with them [the disaccharides] especially in the difficult, delicate and sick cases where physicians are often called upon for advice. . . ." This statement is not true and, furthermore, Gluco-Dextrin undoubtedly contains a considerable proportion of maltose, a disaccharide. The statement is made that "Dextrose and Dextrin (the latter an intermediate between starch and Dextrose) once in the digestive tract have been proven not to cause any bacterial fermentation whatsoever." The referee knows of no proof of this and the statement is inherently improbable. It is stated, furthermore, that "Dextrin, being the intermediate between starch and Dextrose, as pointed out, materially reduces bacterial fermentation." This statement is also inherently improbable. It is claimed that Gluco-Dextrin is "unalterable by exposure," "economically peerless" and that it is "presented . . . to . . . the profession in the hope of having rendered a genuine service." A product which is essentially U. S. P. glucose is presented as something new. It is probably not unalterable by exposure nor "economically peerless," whatever that may mean, when it is evidently sold at a price considerably more than the U. S. P. product or the commercial corn syrups which can be bought in any grocery store for a fraction of the price and which are essentially the same thing. It is claimed that lactic acid milk is considered the "only" remedy for the treatment of intestinal intoxication, marasmus, celiac disease, etc. Though it is a good remedy, it is not the only remedy. It is stated further that "we readily see why milk modified with this formula Number (2) does actually convert existing anorexia (prevalent in the above mentioned diseases) into voraciousness, and this is accomplished by the laudable addition of lactic acid to such predigested milk modifier as Gluco-Dextrin." This statement is unsupported by satisfactory evidence.

In the pamphlet on lactic acid feeding in fermentive diarrheas, several misstatements are made, such as that cow's milk is alkaline in reaction and that marasmus, protein diarrhea and other gastro-intestinal disturbances are due to low stomach acidity. It is further stated that Gluco-Dextrin No. 2 is indispensable either to prevent or remedy the above mentioned disorders (celiac disease, marasmus, diarrhea, gastro-intestinal disturbances). Gluco-Dextrin No. 3 is gluco-dextrin to which 2 per cent potassium bicarbonate has been added. This addition of alkali causes partial decomposition of the sugars, so as to give the liquid a very dark color. It is questionable whether this is an advantage, as sugar in alkaline solution breaks up into numerous decomposition products, some of which may be harmful. It is stated on a trade package that this addition of potassium bicarbonate "materially checks calcium waste and corrects the acidosis that is more or less present when the fat metabolism is impaired, and conserves the alkali reserve." It is further stated that Gluco-Dextrin forms a diet that "completely answers the chemical and physiological needs of infants" and also that the addition of potassium bicarbonate is valuable for relieving constipation in bottle fed infants. There is not enough potassium bicarbonate present to have much effect in combating acidosis in the amounts of Gluco-Dextrin recommended for use; furthermore, potassium salts are inferior to sodium salts in correcting acidosis. There is no evidence that calcium waste would be checked by the administration of this small amount of potassium bicarbonate or that potassium bicarbonate in such amounts is a laxative. Mixtures of dextrin, maltose and dextrose have a definite place in infant feeding and apparently have advantages over some other sugars. A number of these are already accepted for New and Nonofficial Remedies and others are commercial products obtainable everywhere. The present product possesses no originality, and is a simple mixture of U. S. P. articles.

Gluco-Dextrin No. 1, Gluco-Dextrin No. 2, and Gluco-Dextrin No. 3 are unacceptable for New and Nonofficial Remedies because the one is an official article and the others are mixtures of official articles marketed under proprietary names with unwarranted therapeutic claims.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JULY 13, 1929

RELATION OF THE SUPRARENALS TO ADDISON'S DISEASE

Since Addison, in 1855, described the striking clinical syndrome known by the eponymic term Addison's disease, an apparent relationship between the clinical condition and the suprarenal bodies has been recognized. Addison himself described destruction of the suprarenals by tuberculosis as the underlying anatomic condition in his series of cases. Further correlation of clinical and anatomic observations has shown that not tuberculosis of the suprarenals as such but destruction of these organs by any process may be associated with the characteristic clinical picture. Indeed, Addison's original series included a case in which the suprarenals had been destroyed by metastatic tumor; and later observations have added many cases in which loss of suprarenal tissue due to a variety of processes other than tuberculosis has been associated with Addison's disease. The list of other processes, besides the tuberculous and neoplastic destruction already noted by Addison, includes amyloid change in tertiary syphilis, gumma in the same disease, destruction following local acute inflammatory processes or thrombosis of the suprarenal vein, and progressive atrophy, the latter process ranking next in frequency to tuberculosis.

As knowledge of the structure of the suprarenal or interrenal bodies has been advanced through embryologic and comparative anatomic study, the physiology of the bodies has become somewhat better understood, although not yet completely unshrouded of mystery, and the relationship of pathologic changes of the suprarenal to Addison's disease has become more interesting. The suprarenal, instead of being an anatomically homogeneous and relatively simple organ, takes its origin from two quite distinct sources. The medulla is derived from the sympathetic system, and in origin, structure and stainability by chrome salts is more closely related to the chromaffin tissue of the abdominal sympathetic chain and of Zuckerkandl's organ than to the covering cortical tissue with which it comes to have such close anatomic association. The cortex, which constitutes a surprisingly large proportion of the organ during late fetal life and predominates greatly over the medulla even in postfetal life, arises from the primitive mesodermal epithelium which gives rise also to the urogenital tract. Two types of tissue, one from the originally lepidic ectoderm forming the hylic medulla, and the other from the originally hylic mesoderm forming the lepidic cortex, become inseparably united in the mammalian suprarenal body. In some of the fishes the diverse embryogenic origin is evident throughout the life of the species in the complete and permanent separation of chromaffin tissue and of cortical tissue. In their physiologic function the two parts of the suprarenal, although intimately united as is the case in most species of animals, are as distinct as they are in their origin. The isolation of the blood pressure raising principle epinephrine from the suprarenal was the first step, and thus far the most important one in determining in exact manner a function of the organ. But this substance, a product of the medulla and not of the cortex, is formed by other chromaffin tissues as well as by the suprarenal medulla. Knowledge of the function of the cortex is much less exact. Correlative anatomic evidence associates cortical hyperplasia with pseudohermaphrodism, and cortical neoplasms in infancy with virilism in the female and sexual precocity in the male. In their necessity to life, the two parts seem on experimental evidence to differ. Destruction of the medulla by means of radium is compatible with life, whereas destruction of the cortex by freezing or by other methods leads to the death of the animal unless accessory cortical tissue is present.

So long as the addisonian symptom complex could apparently be ascribed to destruction of the suprarenal as a whole, the relationship of disease and changes in the suprarenal appeared clear. The double origin of the organ, the anatomic difference between the two portions, and their undoubtedly different physiologic functions have led to closer examination of pathologic changes in the suprarenal in its relation to Addison's disease, with the aim of determining whether medulla or cortex is more directly responsible for the disease. Differences of opinion naturally have arisen. The isolation of the blood pressure raising principle of the suprarenal, the high dilution in which it is effective, and the proof of its elaboration by the chromaffin tissue of the medulla led many to assume, in view of the low pressure which is such a prominent symptom of Addison's disease, that loss of medullary function is the chief factor in the disease. The rôle of the cortex was held to be negligible or at the most secondary, the arrangement of the vascular bed suggesting that the blood might abstract something from the cortex which had to be further synthesized in the medulla. The necessity of the cortex to life and the part it takes in helping to maintain the metabolism of the body at a normal level, as determined experimentally, led another and more recent group of observers to conclude, in view of the marked asthenia and the fatal termination

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of Addison's disease, that loss of cortical function is the prime or only factor. A compromise view holds the loss of medullary function responsible for the low blood pressure and gastro-intestinal symptoms, and loss of cortical function for the asthenia, fatigability and lowered basal metabolic rate.

The question of the relative importance of cortex and medulla is one that does not appear to be susceptible of satisfactory solution by animal experimentation alone. Such work may help to evaluate the rôle of the medulla or cortex in one or another of the clinical manifestations of Addison's disease in man; but since the complete picture cannot apparently be reproduced in the lower animal, the evidence remains incomplete. Nature, however, occasionally performs experiments in the human being which are more precise than those of the laboratory. Kovács[1] of Vienna has studied the results of such natural or spontaneous human experimental material. Of the latter, only those cases which offer the most striking and most unequivocal evidence need be considered here. In a case of Addison's disease of several years' duration and typical except that the systolic pressure was at the lower range of normal, the medulla of each suprarenal was normal in size and in histologic structure. The cortex of each had disappeared, except for the degenerating remnants of previously regenerated islands of cortical tissue. This condition, which he terms cytotoxic cortical contraction of the suprarenal, Kovács ascribes to the long continued action of a toxic material, the product, he believes, of abnormal intermediary metabolism which acts specifically on the cortical cells alone. Whether this interpretation of the genesis of the suprarenal changes is the correct one is not so important as the fact that nature had performed the experiment of completely removing the suprarenal cortex, sparing the medulla. A second case presented exactly the reverse picture of suprarenal involvement. The medulla of each suprarenal had disappeared completely and had been replaced by a small mass of calcified material, probably as the result of an old healed tuberculous process. The cortex was quantitatively and qualitatively normal on microscopic examination. An excessive amount of extrasuprarenal chromaffin tissue could not be found. The patient had been under observation a number of years for Hodgkin's disease, which was the cause of death; there had been no clinical manifestations of Addison's disease during life, and pigmentation was not evident at necropsy. Two experiments are not many, but when so clear cut as these they are valuable. Of the Kovács material two further cases may be mentioned, of generalized tuberculosis with tuberculous destruction of both suprarenals in each case of a degree sufficient presumably to cause Addison's disease. No symptoms of the latter had existed; at necropsy, considerable amounts of accessory cortical tissue were found. The clinical and anatomic evidence appear to justify the conclusions of Kovács that destruction of the suprarenal medulla in the human being is compatible with life and does not lead to Addison's disease; that final complete destruction of the cortex alone is incompatible with life, and that the destruction leads to the more striking elements of the addisonian disease complex if it occurs gradually enough not to cause death within too short a time; that accessory cortical tissue alone may prevent the development of Addison's disease, even if both suprarenals are fairly completely destroyed; and that cortex and medulla may function normally in anatomic independence of each other. Since the patient with Addison's disease with destruction of cortex alone did not have an abnormally low blood pressure, Kovács adopts the cautious view that loss of suprarenal cortical tissue causes most of the more striking manifestations of Addison's disease, but that the basis of the complete and classic syndrome is loss of both cortical and medullary function.

1. Kovács, W.: Zur Nebennierenpathologie, Beitr. z. path. Anat. u. z. allg. Path. **79**: 213 (Feb. 15) 1928.

THE PLACE OF WHEAT IN THE DIET

Food, clothing and shelter represent fundamental requisites in man's pursuit of well being and happiness. The necessity for food differs in one respect at least from the other factors mentioned in that there is a clearly marked limit to the demand. The opulent person may increase the number of houses that provide shelter and other comforts of life; he may replenish his wardrobe with increasing frequency in accordance with the dictates of his esthetic preferences and the allowance of his income; but the provision of food fuel for the human mechanism finds its limitation in physiologic restrictions that cannot be overstepped without untoward consequences. The energy needs of man, averaging, let us assume, from 2,500 to 3,000 calories, represent the optimum for health and comfort. Only under exceptional circumstances, notably during periods of hard labor, can the intake of food fuel be increased as little as 50 per cent without digestive upsets or some other physical penalty. Even obesity as a consequence of overeating presents limits of endurance. Any propaganda for the continued increase in the intake of food, in contrast with other requisites, thus runs afoul of the opposing proclivities of the animal organism.

These fundamental features of the use of food need to be stressed in a period of increasing incomes when appeals are made from all sides to the enhanced purchasing power of the population. If we can be induced to buy more clothes and motor cars and radio sets, why not food? And consequently the well disposed purchaser is being importuned to increase his consumption of many things, including foods. However, the most that can happen regarding the latter is that he may shift his preferences from one group of nutrient materials to another; that he may alter the quality or variety rather than the total food fuel units that he ventures

to consume. Overeating is a self-limiting error, and its penalties are now well appreciated.

The largest part of our food intake inevitably serves the purpose of supplying energy; hence this fraction is bound to arouse the special interest of the dietetic expert. This energy-yielding portion of our intake is furnished in most parts of the world by the cereals, the least expensive of all nutritively available sources of food fuel for man. The cereals constitute, as a rule, from 30 to 60 per cent of the total calories of the diet. Naturally the question arises as to what is the most advantageous proportion of cereals to incorporate into the human ration, and what preference, if any, should be given to the various commonly available cereals. Wheat, corn, rice, oats, barley and rye come into consideration here. A recent survey [1] by the Food Research Institute of Stanford University indicates that wheat now contributes about one fourth of the calories of the American diet. It is still the chief single staple food. In most southern European countries wheat contributes a larger proportion of the total calories than in the United States; but in countries where rye or rice is the staple cereal, its contribution is smaller. Wheat now ranks as one of the cheapest foods. Per capita consumption appears to be increasing in the world at large but not in the United States or in Great Britain, Canada or Australasia.

The claims made by the modern advertiser for particular types of cereal products are often more ingenious than wise. Taylor [1] has recently ventured to make an unbiased appraisal of the place of wheat in the diet. As wheat contains around 70 per cent of carbohydrate, and wheat flours from 69 to 73 per cent, wheat represents the most important source of carbohydrate in the diet. The carbohydrate is almost entirely starch, except for cellulose in the coat of the kernel. The concentration of starch is highest in the endosperm, where the fiber is lowest; the relations are reversed in the bran. Taylor wisely points out that no food should be appraised by itself, apart from the other foodstuffs. Not what a food is good for alone, but how good it is in combination with other foodstuffs, is the measure to be applied. Otherwise such an article as lard or sugar would find no place in the diet. A correlated appraisal should be both qualitative and quantitative and should be made with sound physiologic perspective. From this standpoint the nutritional importance of wheat in the United States lies primarily in its starch content, not in the content of protein, mineral elements, vitamins or roughage.

There are times when reasons of price and convenience rather than reasons of physiology determine the choice of cereals. If the price of milk, meats, fruits and vegetables were to rise, the tendency would be to consume more of the cheaper cereals. But under the prevailing more stabilized economic conditions relating to food purchase, according to Taylor, there are no nutritional reasons for urging an increased consumption of wheat and a lessened consumption of other cereals, or an increased consumption of wheat and a lessened consumption of meats and vegetables. In the declining trend of consumption of cereals over recent decades, corn has lost most, and apparently all the cereals combined have lost more than wheat. This is exactly what would be expected with the gradual transfer of baking from the home to commercial bakeries. But there is no nutritional ground for urging the further substitution of wheat for the other cereals. Our use of meat is probably declining and that of vegetables is certainly increasing. There is no nutritional reason for checking the growing use of vegetables or accelerating the declining use of meat in favor of wheat. The latter cannot make any superlative appeal with respect to its contribution of protein, mineral salts, vitamins or roughage.

One incident in the promotion of wheat as food deserves especial reference. Americans are importuned today by word of mouth, by radio and by the printed page, in the appeals of dietary faddists, to avail themselves of the alleged superior nutrient virtues of "whole wheat" products. Self-appointed propagandists even refer to white flour and bakery products made of white flour as "poisons." Such assertions, often made for profit, are alike preposterous and intolerable. Man does not live by bread alone—or by meat or vegetables or milk or fruits. As Taylor reminds us anew, if bread were a crucially important source of protein, mineral salts, vitamins or roughage, and these ingredients of whole wheat were crucially superior to those of other foods, it would be important to use whole wheat bread in place of white bread as a source of the essentials; but this is not the case. It is technically difficult to provision the country with a flour containing the germ, since it cannot be sterilized, or kept in cold storage to retard decomposition. If it were desirable, on economic or other grounds, to have the vitamins of the germ, specifically vitamin B, retained in the bread, it would be far better to have the baker add it artificially than to have the miller keep it in naturally. In recognition of the unbalanced nature of wheat protein, the addition of milk protein to bread has become practically standardized in the baking formulas in this country. Vitamin B could be similarly added, if regarded as so advantageous as to appear commercially necessary. To see the effete clubman, seated at a table covered with foods drawn from all regions and loaded down with vitamins, ordering whole wheat bread in order to secure vitamin B is strikingly illustrative of the carrying power of propaganda. Finally, Taylor says:

> To the vast majority of Americans it is not a matter of indifference, nutritionally or esthetically, whether their table has whole wheat bread or white bread. The appearance of white bread is more attractive, the texture is finer, it toasts better. Whole wheat bread has a pronounced taste of its own; white bread has a bland wheaten taste that lends itself well to

1. Wheat Studies of the Food Research Institute, Stanford University, California 5, number 4, February, 1929.

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spreading materials. That whole wheat bread has made so little progress since the day of Graham is due to the weak appeal it makes to the taste. Certainly the place of wheaten bread in the diet will not be enlarged by insistence on the use of whole wheat bread.

BACTERIOPHAGY AS A THERAPEUTIC AGENCY

The bacteriophage has been slow to gain acceptance as a possible agent in the warfare against infection. The theory of such a lytic principle has been sufficiently engrossing to enlist the interest of the writers of fiction; but fact and fancy may be more conflicting in everyday life than in the world of imaginative literature. A bacteriologist has recently remarked that a substance capable, even in extremely small quantities, of killing and dissolving the bacteria with which it comes in contact, and which at the same time is harmless to animal tissues, should have an immediate application to sterilization of body cavities in which bacteria are present. He hastened to add, however, that a bacteriophage race which will attack one strain of an organism will not necessarily attack another strain. Such specificity enhances the necessity of the use of selected products of high virulence for attacking the organism to be destroyed. Perhaps it will help to explain the unfavorable reports that have been published.

At the Chicago meeting of the American Public Health Association, Larkum[1] of the Michigan Department of Health made a vigorous plea for renewed consideration of the possibilities of the use of bacteriophage for the control of certain infectious diseases. This is quite in harmony with d'Herelle's[2] work with relation to bacillary dysentery; he states that his methods of bacteriophagy in vivo have been applied successfully in tens of thousands of cases, and also in the treatment and prophylaxis of cholera. The bacteriophage must, however, be one adapted against the pathogenic organism. Extensive trials are now under way in India. Larkum reminds us that the bacteriophagic filtrates are not only lytic for certain microorganisms but also may act as an antivirus. This means that it may also function in ways comparable to those of typical vaccines. In other words, bacterial cultures that have undergone lysis are antigenic, so that comparisons are invited between the response of inoculations with vaccine and with the bacteriophage lysates. Larkum insists, on the basis of serologic responses which he has secured experimentally in the laboratories at Lansing, that the bacteriophage possesses several characteristics which, could the immunity resulting from its use be shown to be even equal to that produced by the vaccine, justify, indeed demand, its substitution for that agent. These are: freedom from reactions, a factor of inestimable value when it is considered that one of the chief objections to inoculation is the discomfort amounting to disability in some cases; the ease and cheapness of production; the variety of antigens which may be included; and the availability of the prophylactic agent as a therapeutic agent in case of epidemics.

While bacteriophage preparations give promise of eventually becoming valuable additions to the physician's armamentarium, it should be remembered that the whole subject is still in the experimental stage. When vaccine therapy was new and in the ascendency manufacturers offered specific vaccines for almost every human ailment and "mixed vaccines," of startling complexity. The Council on Pharmacy and Chemistry not only rejected most vaccine mixtures but has during recent years been obliged to omit a considerable number of simple vaccines because the results obtained with them did not measure up to the evidence which investigators supplied in the height of enthusiasm. Manufacturers are already marketing bacteriophage preparations, simple and mixed. Warrant for the use of such mixtures has not so far become evident, and the Council on Pharmacy and Chemistry has postponed the acceptance of simple preparations to await further evidence in favor of their usefulness.

1. Larkum, N. W.: Bacteriophage from a Public Health Standpoint, Am. J. Pub. Health **19**: 31 (Jan.) 1929.
2. D'Herelle, Felix: Studies upon Asiatic Cholera, Yale J. Biol. & Med. **1**: 195 (March) 1929.

CEREBRAL FAT EMBOLISM

Cyanosis and dyspnea are so pronounced that clinical recognition of pulmonary fat embolism is usually prompt if any considerable part of the pulmonary capillaries is blocked by fat. The cerebral variety is not so easily distinguished, for a number of reasons. One is that symptoms identical with or much like those of uremia may develop from obstruction of intertubular and glomerular capillaries in the kidneys. In experimental fat embolism the nitrogen in the blood is increased and extensive necrosis of the bowel has also been observed,[1] a condition which in human disease has long been associated with terminal stages of nephritis. Another obstacle is the toxemia from parenteral digestion of fat in the blood stream or in spots where it has lodged. Disorders of metabolism also develop from lodgment of the oil globules in other organs, such as the liver, spleen, bone marrow and suprarenal glands. To these there should be added the harm to the brain when the circulation here and there is interrupted in fine cerebral vessels by oil droplets. The harm is rarely so severe that focal symptoms develop which would make it possible to diagnose cerebral disease and to determine its location. Occasionally, however, in spite of these difficulties, cerebral fat embolism is amazingly definite from the clinical point of view.

There was no hesitation, presumably, in attributing the symptoms to fat embolism of the brain in the two cases reported by Weimann,[2] for spasticity followed by paralysis of the extremities, convulsions, absence of

1. Paul, F., and Windholz, F.: Experimentelle Studien über die Fettembolie und den durch sie verursachten Tod, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **38**: 614, 1925.
2. Weimann, W.: Ueber die Hirnveränderungen bei cerebraler Fettembolie, Deutsche Ztschr. f. d. ges. gerichtl. Med. **13**: 95, 1929.

pupillary reactions, and coma all appeared rather early after fractures of the femur. There were small hemorrhages in the skin in each patient; one lived seven and the other four days after the accident. In the body of the patient who lived longer, the foramen ovale was open; in the other, closed. In each there was fat embolism of all the organs but much more pronounced in the lungs. One brain was fairly normal grossly, the other so heavily beset with minute hemorrhages that it corresponded to the brain "purpura" which is frequently a result of infectious diseases.

Although many brief descriptions of the focal disseminated necroses and hemorrhages of cerebral fat embolism have been published, numerous interesting features of these unusual lesions were found by Weimann. In one brain some were fresh from fat embolism shortly before death, and others were much older. In the latter there was evidence of a lively proliferation of neuroglia close to the occluded vessel and at the periphery of the necrosis. In older foci, phagocytosis of the fat from the femur marrow had taken place and the fat globules possessed "gnawed out" margins. Almost every microscopic preparation of the cortex of the brain that was grossly so markedly changed presented some evidence of these embolic alterations, and in this brain there were pyramidal subependymal infarcts of the striate ganglions. In this brain too, but not in the other, the cerebellum was heavily spattered, the foci mainly where white and gray matter join at the cortex and more in the former. In both brains the gray matter was more involved.

In their distribution and in the sequence of changes they undergo there is a pronounced resemblance between these minute points of disease from fat emboli with those made when the emboli are simply bubbles of air. Both air and fat probably enter systemic arteries at such a rate and in such quantities that at times a fairly uniform dispersion takes place. At other times, and especially is this true of air, a certain quantity of blood propelled to the brain may contain much more of one of these alien substances than is present in any other like amount of blood in systemic arteries at that moment. Such large masses may pass into subdivisions of either the carotid or the basilar arteries, and in these several particulars there are some elements of chance. In other respects, however, the course of events is governed by matters of greater uniformity, such as the pattern of vessel caliber and distribution, of blood current and pressure, and the degree, so important in the brain, with which the sites involved are restricted for their nourishment to a single arteriole.

Future announcements will be made no doubt about the late effects of marked cerebral fat embolism in persons who recover, of some scars in the deeply placed gray ganglions and the outer pallium and the effects they have on mentality, muscular coordination, and other highly specialized functions of the central nervous system.

Current Comment

MORE DEATHS FROM THALLIUM

Three more deaths[1] from thallium poisoning are reported by Merkel.[2] Three boys, aged 10, 11 and 12 years, respectively, received successive doses of thallium acetate for ringworm. Although influenza had left one of them apathetic and the other two were mentally dull since birth and all three were undernourished, the dose of 0.008 Gm. per kilogram of body weight was either given or its administration begun. The effort to give the calculated amount in divided doses caused death, as have other similar attempts. There is no longer any necessity for such experimentation. Death of these three boys followed with a regularity that has been noted before, one dying twelve, another fourteen and the third fifteen days after the first dose. Only one dose should be given, and for children infirm in any way, this should be less than the usual amount.

LADY NICOTINE AND THE LADIES

A contemporary publication, in highly intemperate language, violently attacks the "lying, murderous campaign of the American tobacco trust" on the ground that it is recommending cigarets to women.[3] "These conscienceless baby killers," says this publication, "should be given a lesson now that will last for the next generation." Since the publication which voices these sentiments disclaims any fanaticism on the subject of tobacco, it draws obviously a sharp distinction between the sexes in the matter of cigaret smoking. Unfortunately, the scientific evidence on which the convictions are based is chosen with an eye for its usefulness rather than for its authoritative character. "An anticigaret conference is responsible for the statement that there were recently forty babies in one ward of the New York maternity hospital suffering from tobacco heart caused by the cigaret smoking of their mothers. We have no information of our own as to this, but it seems reasonable." Three months previously the following statement[4] appeared in the same publication: "Sixty per cent of all babies born of cigaret-smoking mothers die before they reach the age of two, due primarily to nicotine poisoning." This statement is attributed to a Dr. Charles D. Barber, although an exactly similar statement was actually made by one Chauncey L. Barber before a convention of the American Association for Medico-Physical Research. This organization, it will be remembered, is an offshoot of the Abrams cult and includes in its membership many prophets of one idea systems of healing. Probably attempts were not made to determine the scientific status of this association, nor has it struck our contemporary that the "startling statement" which it has quoted is unsupported in its context by any kind of

1. Thallium Poisoning, editorial, J. A. M. A. **92**: 1865 (June 1) 1929.
2. Merkel, Herman: Über Todesfälle im Gefolge von therapeutischen Massnahmen, Deutsche Ztschr. f. d. ges. gerichtl. Med. **13**: 237, 1929.
3. The Cigaret Outrage, Voice of the Board of Temperance, Prohibition and Public Morals of the Methodist Episcopal Church **17**: 1 (April) 1929.
4. Voice of the Board of Temperance, Prohibition and Public Morals of the Methodist Episcopal Church **17**: 3 (Feb.) 1929.

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evidence whatever. Is there, in fact, any evidence that the use of tobacco is any more injurious to women, pregnant or not pregnant, than it is to men? Two years ago Professor Schrumpf-Pierron reviewed the medical literature for the Committee to Study the Tobacco Problem. The summary of his research [5] is accompanied by seventy pages of bibliography. There is no mention of tobacco heart in new-born children. After a review of the published evidence, this conclusion is set forth: "Smoking . . . by women has no apparent influence over the functions of the genital system." The morality of smoking by women is not a medical concern any more than the question as to whether or not they should go bareheaded into church. As to the physical harm done to them or to their offspring, if it is any greater than that done by the same habit to their husbands and brothers, it is high time that some scientific evidence be brought forward to show in what this particular harm consists.

Association News

MEDICAL BROADCAST FOR THE WEEK

The American Medical Association Morning Health Talks and Evening Health Hints from Hygeia

The American Medical Association broadcasts daily at 11:15 o'clock in the morning, central daylight saving time, over Station WBBM (770 kilocycles, or 389.4 meters).

The program for the week of July 15-20 is as follows:

July 15. "The States' Interest in Medicine," by Mr. T. V. McDavitt.
July 16. "The Federal School for Training Health Officers," by Dr. James Nall.
July 17. "Medical News," by Dr. J. F. Hammond.
July 18. "Overcoming Noise in the Home," by Miss Mildred Whitcomb.
July 19. "Headaches," by Dr. John M. Dodson.
July 20. "Headaches," by Dr. John M. Dodson.

Evening Health Hints from Hygeia, 8 o'Clock, Central Daylight Saving Time

July 15. Nose Bleeding.
July 16. How to Live One Hundred Years.
July 17. Reasons for Birth Registration.
July 18. A Real Place to Live.
July 19. Prejudice Brings Tragedy.
July 20. Tonsillitis May Affect the Heart.

5. Tobacco and Physical Efficiency: A Digest of Clinical Data by Pierre Schrumpf-Pierron, M.D., New York, Paul B. Hoeber, Inc., 1927.

Psychology and the Physician.—We are in these days learning much about the relations of bodily type to emotional trend and much about the relation of temperamental type to social maladjustment. In our studies of patients today we are compelled to familiarize ourselves with the psychical and social history as well as with the somatic history of those who come to us for help; and we are realizing more and more that a knowledge of intellectual capacity, of personality make-up, and of social or antisocial tendencies, is just as important for the explanation and management of inadequacy of response as is a knowledge of physical, chemical and bacteriological relationships. The practitioner of tomorrow, even of today, must find himself seriously handicapped without more than a fragmentary knowledge of the motivations of human conduct, of the desires that men strive to gratify, and of the intrapersonal and social conflicts that may arise during the struggle for the satisfaction of these desires. Researches upon instinctive tendencies, upon disharmonies in these tendencies, and upon environmental circumstances that prevent the fulfilment of legitimate human desires, are indispensable for physicians whose duty it is to help to promote the welfare of single persons as well as that of society as a whole.—Barker, L. F.: The Etiological Approach to the Study of Disease, *J. Michigan M. Soc.*, July, 1929.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Personal.—Dr. W. L. Orr, Atlanta, Ga., has taken up the duties of health officer of Dale County, succeeding Dr. Winfield S. Owsley.——Major Robert H. Stanley, for about five years chief of the tuberculosis service at the National Military Home, Dayton, Ohio, has resigned to become head of the Montgomery Memorial Hospital.

CALIFORNIA

Dr. Oliver Goes to Brooklyn.—Dr. Jean R. Oliver, professor of pathology, Stanford University Medical School, San Francisco, has been appointed professor of pathology at the Long Island College Hospital, Brooklyn, to succeed Dr. Archibald Murray, effective July 1. Dr. Oliver, before going to Stanford, was with the Rockefeller Institute, New York.

Takahashi and Araki Fined.—The state board of medical examiners reports that Hideo Takahashi was found guilty, May 28, of violating the medical practice act and was fined $50. His motion for a new trial was denied. Takahashi is part owner of an office at 355 East First Street, Los Angeles, where patients are treated for various diseases by the "Solar Ray Therapeutic Apparatus." M. Araki pleaded guilty, May 27, to violation of section 17 of the practice act and was fined $100. Araki had a massage establishment at 1103 San Julian Street, Los Angeles. He treated patients by quartz light and other methods at odd times, while his chief employment was that of a nurse and interpreter for a doctor of medicine.

Summer Health Schools for Children.—Los Angeles County for the fifth year opened its summer health schools, July 1, and they will continue for eight weeks. Dr. John L. Pomeroy, the county health officer, says there are about 6,000 children who need special health supervision and about 25 per cent of them are financially unable to meet the need alone. The plan to help the children to better health is to take them during the summer for the usual school day, using a portion of the school buildings as a preventorium. Only those whose parents consent to attend weekly conferences are enrolled. The children include only those between the ages of 6 and 11 who are undernourished or who have been definitely exposed to tuberculosis or other infectious disease, causing them to present a health problem. No child actually ill is admitted. They are under the supervision in the school buildings of nurses, physicians, dietitians and physical therapeutists. The daily program includes sun baths, supervised recreation, rest periods and luncheons. The cost is partly provided for by civic and fraternal organizations, parent-teacher organizations and women's clubs. Last year 75 per cent of the 500 children who were given health training in this manner, when surveyed eight months later, were found to have retained the gains they made.

Changes in Faculty of Medical School.—The dean of the University of California Medical School, San Francisco, announces the following changes in the faculty, effective July 1:

APPOINTMENTS

Instructors: E. Ogden, physiology; P. L. Kirk, biochemistry; Dr. Isabel H. Perry, pathology; Dr. Adelbert M. Moody, pathology; Drs. William A. Reilly and Minnola Stallings, pediatrics; Dr. D. G. Morton, obstetrics and gynecology; to be assistant professor of medicine and pathology, Dr. Stacy R. Mettier (absent on leave; see Massachusetts News).

PROMOTIONS

Dr. Zera E. Bolin from instructor to assistant professor of pathology; Dr. Theodore L. Althausen from instructor to assistant professor of medicine; Dr. Randolph L. McCalla from instructor to assistant clinical professor of medicine; Dr. Carl L. Hoag from instructor to assistant clinical professor of surgery; Dr. Alson R. Kilgore from instructor to assistant clinical professor of surgery; Dr. William B. Faulkner from instructor to assistant clinical professor of surgery; Dr. Lionel P. Player from instructor to assistant clinical professor of urology; Dr. Sidney Olsen from instructor to assistant clinical professor of urology; Dr. Howard E. Ruggles from associate clinical professor to clinical professor of roentgenology; Dr. Lloyd Bryan from assistant clinical professor to associate clinical professor of roentgenology; Dr. Robert S. Stone from instructor to assistant professor of roentgenology; Dr. Ernest Wolff from instructor to assistant clinical professor of pediatrics; Dr. Alice F. Maxwell from associate clinical professor to clinical professor of obstetrics and gynecology; Dr. Dorothy Atkinson from instructor to assistant clinical professor of medicine; Dr. Florence M. Holsclaw from associate clinical professor to clinical professor of pediatrics; Dr. John W. Shiels from lecturer to associate clinical professor of medicine; Dr. Hiram Miller from associate clinical professor to clinical professor of dermatology; Milton I. Rose, Ph.D., from instructor to assistant professor of physiology; Dr. Alanson Weeks from associate clinical professor to clinical professor of surgery;

Dr. Clain E. Gelston, from instructor to assistant clinical professor of pediatrics; Dr. Edward B. Shaw from instructor to assistant clinical professor of pediatrics; Dr. James F. Rinehart from assistant to instructor in pathology; Dr. Fred C. Linde from assistant to instructor in orthopedic surgery; Dr. John W. Crawford from assistant to instructor in ophthalmology, and Dr. Clark M. Johnson from assistant to instructor in urology.

CONNECTICUT

State Medical Election.—At the annual meeting of the Connecticut State Medical Society, Waterbury, May 22-23, Dr. William F. Verdi, New Haven, was elected president, and Dr. Charles W. Comfort, Jr., New Haven, reelected secretary. The next annual session will be held at Hartford, May 21-22, 1930.

Illegal Practitioner Fined.—One Walter Saltunas of Naugatuck was convicted, March 21, of practicing medicine without a license and of selling drugs. He was fined $100 on each of the two counts and sentenced to sixty days in jail. Part of the fine was remitted and the jail sentence suspended for one year. The fine for practicing medicine without a license was divided so that $25 went to the state treasurer and a like amount to the complaining witness.

Psychiatrist Appointed.—Dr. James L. McCartney has been appointed chief of the department of mental hygiene of the Connecticut State Department of Health. This is the first time that a full-time psychiatrist has been in charge of this division. Dr. McCartney for a year has been a fellow of the National Committee for Mental Hygiene at the Institute for Child Guidance, New York. A mental hygiene program similar to those in New York and Massachusetts is to be carried out.

Dr. Fulton Appointed Professor of Physiology at Yale.—The appointment of Dr. John Farquhar Fulton, Jr., to the chair of physiology at Yale University School of Medicine was announced, June 18. He will head the department and be associated with the Institute of Human Relations. Although not quite 30 years of age, Dr. Fulton graduated at Harvard in 1921, studied four years with Sherrington at Oxford, returned to Harvard, receiving his M.D. degree in 1927, and spent a year at Dr. Harvey Cushing's brain surgery clinic. He returned to Oxford in 1928 as a fellow, where he is now conducting research on the central nervous system. He will take up his duties at Yale, July 1, 1930.

DISTRICT OF COLUMBIA

Death Due to Typhus Fever.—The death certificate of Mrs. Fanny Esterbrook, wife of the chief of army chaplains, which was filed with the health department, June 28, gave typhus fever as the cause. Mrs. Esterbrook died at Walter Reed General Hospital, but the disease is said to have been contracted in a camp in Georgia in May. A necropsy substantiated the diagnosis.

Mental Hygiene Clinics.—The Washington Institute for Mental Hygiene will open its first clinic in October with a staff of five specialists, including a psychiatrist, psychologist and social workers. While this clinic will be limited to persons under 17 years of age on account of the pressure of cases from the public schools, other clinics will be established as the finances and staffs become available, and these will work with the adult public at large. The clinic will work in conjunction with an advisory board comprising the presidents of the local medical societies, the health officer and the deans of the medical schools. The Washington Institute for Mental Hygiene was incorporated, June 24, with a board of managers of which Dr. William A. White, superintendent of St. Elizabeth's Hospital, is chairman.

ILLINOIS

Elks Enter the Clinic Field.—The Illinois Elks Association has completed plans to carry on a permanent orthopedic program in behalf of the crippled children of Illinois. The state health department says that a survey to determine where the crippled children are will be made. Clinics will be organized at which the patients and the family and physicians may meet with specialists for diagnosis and advice. Dr. Henry B. Thomas, professor of orthopedic surgery, University of Illinois College of Medicine, is to head this service. The plan is to work in close cooperation with the medical societies concerned.

Laboratory Celebrates Silver Anniversary.—The diagnostic laboratory of the state department of health celebrated its twenty-fifth anniversary, June 26. The Sangamon County Medical Society participated, Dr. Andy Hall, state health officer, presiding. Dr. William A. Evans, former health commissioner of Chicago, gave a public address and an address before the medical society. The state laboratory began in 1904 with one part-time technician and in the first year its work was practically confined to examinations for tubercle bacilli. Today the laboratory has several branches employing over a hundred people, who do more than 250,000 tests annually relating to a dozen diseases, and, in addition, undertake research.

Illinois Faces a Mental Hospital Problem.—Commitments to state hospitals for the insane in Illinois exceed by 800 or more each year the number of patients discharged. The disproportion has continued so long that there is now an urgent need for 6,000 additional beds. This situation has been brought to the attention of the governor and the state legislature through the Citizens Association and the Illinois Society for Mental Hygiene. When a committee of the house visited the hospitals, it found overcrowding. In some hospitals, at times, as many as 340 patients are required to sleep on mattresses on the floor, while in Cook County alone more than 1,500 cases for commitment of feebleminded children are pending, as action cannot be taken by the courts because of the shortage of beds. It is estimated by the Illinois Society for Mental Hygiene that $40,000,000 will be necessary to provide buildings which now are imperative. The fifty-sixth general assembly appropriated $6,000,000 for improvements in hospitals and an institution is being constructed at Manteno with $1,000,000 appropriated in 1927. The Illinois Society for Mental Hygiene suggests a program to meet this problem. Among other things, it recommends acquiring 5,000 acres for the erection of five separate and distinct institutions in the same neighborhood, none of which shall accommodate more than 2,500 patients. It is proposed that in this group there shall be a special unit for the study of mental disease, a unit for the training of borderline defectives with the object of returning them to the community, and another unit (but not in this group) for the care of defectives who present special behavior problems. The society recommends that the Chicago State Hospital at Dunning, one of those found overcrowded, be abandoned as soon as accommodations are provided elsewhere, and that an institution be erected at Alton, to accommodate 1,000 patients.

Where to Find the Constitution.—The new edition of the American Medical Directory, which is ready for mailing, contains on the opening pages the constitution and by-laws of the American Medical Association, and the names of its officers, and members of the various councils. There is also a list of the Presidents of the Association as far back as 1847, and of the cities in which annual sessions have been held.

Chicago

Dr. Mix Retires.—Dr. Charles L. Mix has resigned as professor and head of the department of medicine, Loyola University School of Medicine, and has been appointed professor emeritus. Dr. Mix, it is reported, plans to retire from both teaching and practice and to devote his time to writing and study. His successor on the medical faculty will be Dr. Italo F. Volini, now clinical professor of medicine.

Outbreak of Food Poisoning.—Wedding cake was reported to be responsible for the sudden illness, June 30, in Brookfield, of about forty-seven guests. The dwelling house became in fact an infirmary, the patients being stretched out on the floor or cots. The family physician called in consultants and within a few hours all of the victims were said to be out of danger. None of those who refrained from eating cake became ill.

University News.—The University of Chicago conducted the sixth institute under the Norman Wait Harris Memorial Foundation, June 17-28. The institute considered problems of population and migration and among the lecturers were teachers from Japan, Italy, Germany and the United States. This trust fund was presented to the university in 1923 for the promotion of better understanding of other peoples of the world, "thus establishing a basis for improved international relations and a more enlightened world order."

Death from Gas from Artificial Refrigerator.—A coroner's jury of physicians and scientists concluded, July 1, that the death of Mrs. Violet Clark on the previous Saturday was caused by inhaling methyl chloride gas which came from an artificial refrigerator used in her apartment. The jury came to its conclusion after careful consideration of the fact that thousands of such refrigerators have been installed throughout the country and that they operate with apparent slight mortality. They also came to this decision against opposition from some officials of the artificial refrigerator industry. The jury recommended that steps be taken to prevent further sickness and death from such causes. It was found that there was a definite

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leak in the refrigerator and that an abundance of methyl chloride gas was present in the Clark apartment. The coroner's chemist, Dr. Ralph Webster, stated that he examined the body of Mrs. Clark and found positive evidence that her death was caused by the gas. Dr. Webster also said that the death of guinea-pigs which had been placed in the Clark apartment was due to the gas. The city health officer and other physicians believe that some other cases of illness and death in recent months have been due to a similar cause. The coroner's jury comprised Drs. Morris Fishbein, editor of THE JOURNAL, foreman; H. Gideon Wells, professor and chairman of the department of pathology, University of Chicago; Emery R. Hayhurst, professor of hygiene at Ohio State University College of Medicine; Richard H. Jaffe, director of the laboratory, Cook County Hospital, and Profs. Fred C. Koch, Ph.D., of the department of physiologic chemistry, and Morris S. Kharasch, Ph.D., of the chemistry department of the University of Chicago.

INDIANA

Sentenced for Illegal Operation.—Dr. Ezra H. Pleak was found guilty in the Vanderburgh circuit court, April 5, of performing an illegal operation and was sentenced to from three to fourteen years in an Indiana prison, with a fine of $100. The operation is reported to have resulted in the death of an 18 year old girl last December (THE JOURNAL, June 4, 1927, p. 1818).

Hospital News.—Mrs. Mary Hanson Carey, Indianapolis, has given $500,000 to the Methodist Episcopal Hospital, of which $300,000 will be used to construct a new unit of 200 rooms to be named, in honor of her father, "The Julius A. Hanson Unit." The remainder is for endowment of the laboratory, where the interest will be expended on research. It was in this hospital laboratory that some of the early clinical work on insulin was done in cooperation with Eli Lilly and Company.

Society News.—The Madison County Medical Society was guest of the Elwood County Medical Society, June 26. The afternoon was spent at golf and bridge and the evening at a picnic dinner. Drs. Henry O. Mertz, John W. Carmack and Alfred Henry, all of Indianapolis, spoke on scientific subjects. This was the last meeting until fall.——The Lake County Medical Society, Hammond, was addressed, June 14, by Dr. George G. Davis, Chicago, on new methods used in treating fractures of the hand and foot. At this, the last meeting until fall, there was an attendance of 100 physicians.

LOUISIANA

Tulane Will Build a New Clinic.—Tulane University School of Medicine, New Orleans, will soon undertake the construction of a nine story clinic building which will be operated in close cooperation with the State Charity Hospital. It will cost about $1,250,000 and will provide the most extensive facilities for the care of patients and the study of disease. This, the new Hutchinson Memorial Building, at La Salle Street and Tulane Avenue, will provide not only administrative offices for the medical college but also headquarters for the state and city medical societies.

MARYLAND

Dr. Weed Retires as Dean.—The three-year term of office of Dr. Lewis H. Weed as dean of Johns Hopkins University School of Medicine expires in October. Dr. Weed, who will retain the chair of anatomy at the medical school, has announced that he does not care to take the office again. His successor has not been appointed. Dr. Alan M. Chesney is at present the acting dean.

Personal.—Dr. Dean Lewis, professor of surgery, Johns Hopkins University School of Medicine, Baltimore, gave the address at the graduation exercises of Northwestern University Medical School, Chicago, June 14.——Dr. Julius Faribault, formerly of Taunton, Mass., has been appointed assistant physician at the Eastern Shore State Hospital, Cambridge, Md.——Dr. Herman Chor, who recently finished an internship at a Baltimore hospital, has been awarded a three-year fellowship in neurology at the Mayo Clinic, Rochester, Minn.——Dr. Lewis H. Weed, dean and professor of anatomy, Johns Hopkins University School of Medicine, gave the address at the commencement of Cornell University Medical College, New York, June 13.

Permits for Swimming Pools.—The state board of health has adopted regulations to cover the operation of swimming pools throughout Maryland. No swimming pool shall be operated for six days or longer which accommodates ten or more persons without a permit. Applications to operate a swimming pool shall be made in writing to the board on forms which they supply, stating the location, number of persons it will serve, source of the water supply, methods of water purification and sanitary conveniences to be provided. Bathing places shall be open for inspection by authorized health officials at all times and they shall have the power to order reasonable changes relating to the improvement of the sanitary conditions of pools and their surroundings, and to close a pool if necessary to protect the public health.

MASSACHUSETTS

Appointments at Harvard.—The following appointments at Harvard University Medical School, Boston, have been announced:

Channing C. Simmons, acting surgeon in chief of Huntington Memorial Hospital for three years.

Assistants: John L. Jacobs, Eliot F. Porter, Stacy R. Mettler, Laurence B. Ellis, Clark W. Heath, Frank W. Marlow, Jr., Nathan Sidel, Wheelan D. Sutliff, Fred Gibbs, H. H. Merritt, Jr., Arthur B. Donovan, Leon E. White, Jr., William H. Lewis, Jr., George K. Mallory, Henry E. Gallup, Edwin S. Goodwin, Harold D. Pyle and Horatio Rogers.

Instructors: Junius M. Rawlings and Ernest M. Daland.

Research Fellows: Harold A. Abramson, Richard T. Beebe, Douglas R. Drury, Jacob Lerman, George W. Lewis, Arthur A. Marlow, Ovid O. Meyer, William T. Salter.

Teaching Fellows: George H. Hitchings, Marshall N. Fulton, Elbert L. Persons, Frederick Kellogg, Chester W. Hampel, Wesley T. Pommerenke.

Henry Pickering Walcott Fellow: Fuller Albright.

MISSISSIPPI

Personal.—Dr. Richard M. Boyd, Aberdeen, has been cited by the war department for gallantry in action at Cuisy, France, Oct. 7, 1918, while serving with the one hundred and forty-fifth field artillery; under severe shell fire, he cared for and evacuated a number of wounded.

State Medical Election.—At the sixty-second annual meeting of the Mississippi State Medical Association at Gulfport, May 14-16, Dr. Hugh A. Gamble, Greenville, was made president; Dr. Thomas M. Dye, Clarksdale, secretary, reelected, and Drs. John Darrington, Yazoo City, and William H. Frizell, Brookhaven, delegates to the American Medical Association. The next annual meeting will be at Vicksburg, May 13-15, 1930.

MISSOURI

Society News.—The Jackson County Medical Society, Kansas City, was addressed, June 29, by Drs. Temple S. Fay and Eugene P. Pendergrass, Philadelphia, on "Encephalography."——Dr. Joseph B. Cowherd, Kansas City, addressed the Cass County Medical Society, Harrisonville, June 13, on "Summer Intestinal Disturbances in Infants."

State Medical Election.—At the annual meeting of the Missouri State Medical Association, Springfield, May 13-16, Dr. Tolman W. Cotton, Van Buren, was made president, Dr. Wenzel C. Gayler, St. Louis, president elect, and Dr. Edward J. Goodwin, St. Louis, reelected secretary. The next annual session will be held at Hannibal, in May, 1930.

Dr. Cooper Appointed Health Director.—Dr. Calvin L. Cooper has been appointed health director of Kansas City. Dr. Cooper has practiced in Kansas City for thirty-one years. He served during the World War, is a past president of the University Medical College Alumni Association, and is a member of the board of censors of the Jackson County Medical Society.

Testimonial to Dr. Vinyard.—During the annual meeting of the Missouri State Medical Association at Springfield in May, about seventy-five members assembled at a banquet to honor Dr. George W. Vinyard of Jackson, who has been in practice about fifty-four years. Among those present were many officers of the association and former presidents. The toastmaster was Dr. Bernard W. Hays. Dr. Robert F. Lischer, Mascoutah, Ill., gave an address on "The Country Doctor." Dr. Vinyard was presented with an engraved watch and chain. In his remarks, he reviewed the changes that had taken place in practice since he began in the preantiseptic days.

NEW JERSEY

Society and Auxiliary News.—Dr. Allen K. Krause, associate professor of medicine, Johns Hopkins University School of Medicine, Baltimore, addressed the Bergen County Medical Society, May 16, at the National Hospital Day celebration at Bergen Pines on "Clinical Tuberculosis."——The Mercer County Medical Society was addressed, May 8, by Dr. James Alexander Clarke, Jr., Philadelphia, on "Treatment of Hay-Fever."——The women's auxiliary of the Atlantic County Medical Society provided a brace for a crippled boy in a ward of the Atlantic City Hospital. It cost $35. The auxiliary planned

a "cake sale" and a public card party with a view to presenting the new administration a "stout purse" to carry on.——Dr. Benjamin Goldberg, secretary, board of directors, Municipal Tuberculosis Sanitarium, Chicago, gave the twentieth anniversary address at the Preventorium, Farmingdale, May 31, on the fundamentals of a national child health program.

Chiropractors and Others Prosecuted.—The board of medical examiners of New Jersey forwards the following list of prosecutions of irregular or illegal practitioners:

George R. Dencer, Newark, chiropractor, convicted for practicing medicine without a license.
Andrew F. Whitford, Trenton, illegal practitioner, pleaded guilty.
William C. Rohrer, Bayonne, chiropractor, paid the penalty for practicing medicine without a license.
Rudolph B. Willrich, Wildwood, paid the penalty for practicing chiropody without a license.
Charles Rogers, Newark, pleaded guilty to practicing medicine without a license.
Louis Glover, Orange, druggist, found guilty of practicing medicine without a license.
William Ruth, Irvington, chiropractor, convicted for practicing medicine without a license.
Adolph Schulhoff, Newark, convicted for practicing medicine without a license.
Ernest M. Bick, Newark, paid the penalty for practicing medicine without a license.
Isaac H. Blae, Newark, convicted for practicing medicine without a license.
Angelina Milone and Ralph Milone, Camden, herbalists, pleaded guilty to practicing medicine without a license.
Norman Heiman, New Brunswick, chiropractor, pleaded guilty to practicing medicine without a license.
William M. Gilbert, Toms River, pleaded guilty to practicing medicine without a license.
Leo Gibbons, Trenton, pleaded guilty to practicing medicine without a license.
Abraham L. Fennimore, Trenton, herbalist, paid the penalty for practicing medicine without a license.
Frank S. Mansolillo, Jersey City, chiropractor, pleaded guilty to practicing medicine without a license.
Annuniziata Tozzi, Lyndhurst, midwife, convicted for practicing medicine without a license.
Waldemar de Miller, Manasquan, pleaded guilty to practicing medicine without a license.
William Shinas, Newark, paid the penalty for practicing medicine without a license.
Leonae Russo, Newark, convicted for practicing medicine without a license.
Peter Eagle, Paterson, convicted for practicing medicine without a license.
Mary Youkan convicted for practicing midwifery without a license.
John Newhall Kirk's license to practice medicine and surgery was revoked, Sept. 20, 1928, by the board.

NEW YORK

Sale of Cellulose Nitrate Film Prohibited.—A committee appointed by Acting Governor Lehman to investigate the use of cellulose nitrate films for roentgen-ray purposes in institutions in New York recommended that they be prohibited in view of their danger to health and life. The sanitary code, therefore, has been amended by the public health council by the addition thereto of regulation 17, effective September 1, which reads: "The sale or distribution of cellulose nitrate film for x-ray purposes is hereby prohibited."

Society News.—The Lake Keuka Medical and Surgical Association held its annual meeting, July 11-12; among the speakers were Drs. John H. Stokes, Philadelphia; Elliott P. Joslin, Boston; Emil Novak, Baltimore, whose subject was "Ovarian Dysfunction and Uterine Cancer as Causes of Menopausal Bleeding"; Charles E. Farr, New York, "Appendicitis in Children," and John L. Morse, Boston, "The Thymus and Status Lymphaticus."——Mental disease and associated physical disorders in New York represent an economic loss of about $143,000,000 annually, according to the director of the statistical bureau of the state department of mental hygiene.

New York City

Personal.—Dr. Simon Flexner, director, Rockefeller Institute for Medical Research, was elected a corresponding member of the Reale Instituto Lombardo di Scienze e Lettere of Milan, June 6.——Dr. Maurice Fishberg has been invited to address the annual meeting of the British Medical Association, Manchester, England, July 24, on "Apical and Subapical Tuberculosis."

Hospital News.—The new 400 bed municipal Morrisania Hospital at Gerard and Walton avenues and One Hundred and Sixty-Seventh and One Hundred and Sixty-Eighth street in the Bronx was ready to receive patients, July 1, on which day the commissioner of hospitals, Dr. William Schroeder, Jr., and Mayor Walker inspected the institution. The formal opening, however, will take place in September.

Selling a Hospital to Donors.—Something novel in finance is the plan of the new Bronx Hospital, which will soon start construction with practically all of the $2,000,000 subscribed. Contributors were permitted to buy just what they wanted of the hospital, each being given honorary title to his purchase, and a right to vote at annual meetings and a deed which conveys annual membership in the hospital. The buyers also have priority rights in the introduction of patients to the hospital. The parts offered to the public were the operating room and amphitheater at $40,000; eight-bed wards at $30,000; one bedroom at $7,500; elevators at $7,500 each, two bedrooms at $10,000 each; solariums at $17,500 each, and the directors' room at $37,500. The Bronx Hospital will be a nine-story granite, terra cotta and steel building. It will house eventually 500 patients and be nonsectarian.

Decrease in Diphtheria.—The death rate from diphtheria in the city during the first six months of 1929 decreased 28.5 per cent from that for the same period of last year. This means, the commissioner of health says, that the lives of 131 children were spared if the same number of diphtheria deaths had prevailed as in 1928. Even so, 329 children died of diphtheria during these six months. The decrease in the case rate in this period was 19.4 per cent, but there were still 6,171 cases. New York City for months has been carrying on an intensive campaign to eradicate diphtheria by means of immunization with toxin-antitoxin. The ideal time for immunization, the health commissioner says, is in the summer, although it is painless, harmless and lasting and can be given at any time in the year. Since it takes several months for immunity to develop after the treatment has been given, parents should have their children immunized now, for diphtheria is usually prevalent in the fall.

Guggenheims Establish Foundation to Sponsor Clinics.—Mr. and Mrs. Murry Guggenheim announced, June 23, the formation of a foundation for "the promotion, through charitable and benevolent activities, of the welfare of mankind throughout the world." The foundation at present will confine its work to the establishment of free dental clinics. The first clinic is to be erected in Manhattan at a cost of more than $3,000,000 for construction, equipment and endowment. Among the charter members of the incorporation is Dr. S. S. Goldwater, formerly city health commissioner, and until recently medical director of Mount Sinai Hospital. Efforts will be made to follow the example of the Rochester Dispensary in its close affiliation with the municipal school authorities. Mr. Guggenheim expects to receive the cooperation and support of the dental societies. He believes that instead of taking from the practicing dentists work which would otherwise be theirs, the result will be directly opposite, providing the dental profession with a valuable field for graduate study and training.

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What Has Become of Certain Medical Colleges?—The eleventh edition of the American Medical Directory, which is now ready to ship, contains information about 456 medical colleges. There are now only eighty-five medical colleges in the United States and Canada, and their names are in black face type. It is possible with the directory to learn what has become of certain other medical schools. Some of them are in foreign countries, some have merged, others have ceased to exist. Short histories of these colleges appear on pages 23 to 32 in the directory.

NORTH CAROLINA

Personal.—Dr. James W. Keever has been appointed health officer of the city of Hickory.——The Guilford County Medical Society gave a banquet, June 6, in honor of four physicians who had completed fifty years in the practice of medicine. Drs. William P. Beall, Greensboro; Thomas E. Anderson, Statesville; Julian M. Baker, Tarboro, and Chalmers M. Van Poole, Salisbury.

Junior League Conducts Health Station.—A health station for preschool children is being conducted at High Point by the Junior Service League during the summer. Five members of the league are to be in charge and the children are to be carried to and from the Emerywood Kindergarten, where they will be given sun baths, weighed and provided with milk and where health charts will be kept for them. The children admitted are those who are victims of malnutrition and who expect to enrol in the public schools this fall. School authorities are said to be cooperating with the league in this project.

Society News.—Dr. Charles S. Lawrence, Winston-Salem, has been elected president of the Eighth District Medical Society.——The Third District Medical Society was addressed, June 20, by Dr. Lewis B. McBrayer, Southern Pines, on "Organized Medicine."——The following physicians have been elected presidents of the Third, Sixth and Tenth district medical societies, respectively: John D. Robinson, Wallace, Hodge A. Newell, Henderson, and Wilbur B. Robertson, Burnsville. The

Ninth District Medical Society gave a pediatric clinic to the physicians of that district, June 17-28, for which there was no charge.——The Southern Pediatric Seminar will hold its ninth session at Saluda, July 29-August 10. The staff comprises thirty-three men. There are a few scholarships for physicians who live in small towns of the state. The dean is Dr. William A. Mulherin, Augusta, Ga.

OKLAHOMA

Board of Examiners Organized.—The new board of medical examiners, appointed by the governor, comprises all members of the old board except Dr. Harper Wright, who had changed his location; Dr. Frank H. McGregor was appointed to represent that part of the state. The board has seven members. At the organization meeting, Dr. Daniel W. Miller, Blackwell, was elected president, and Dr. James M. Byrum, Shawnee, secretary. The next meeting will be at the state capitol, Oklahoma City, September 10-11.

WASHINGTON

Personal.—Dr. Marion Le Cocq, Lynden, has been reappointed county health officer for two years.——Dr. Charles L. Dixon, Renton, has been reappointed health officer of King County for two years, effective July 1.

Medical Library for Spokane.—The Spokane County Medical Society approved plans, June 13, for the establishment within the next three months of a medical library, for which an initial outlay of $8,000 was authorized. It will open with more than 2,000 medical volumes and sixty-five current medical journals. The chairman of the library committee is Dr. Carroll L. Smith, and the other members are Drs. Robert P. DeRiemer, Charles B. Ward and Robert N. Hamblen. The society will make the library available to all physicians in the community whether members or not.

Society News.—Members of the Whatcom, Skagit and Snohomish county medical societies held an outing, June 4, at the Everett Golf and Country Club. The scientific program comprised papers by Dr. William D. Kirkpatrick, Bellingham, on "Injuries to the Shoulder Joint," and Dr. Hiram E. Cleveland, Burlington, on "Uterine Fibroids."——Dr. George W. Swift, Seattle, addressed the annual banquet of the Thurston-Mason County Medical Society, Shelton, on injuries to the brain and skull. Several reels of medical motion pictures were exhibited on the treatment of infections of the hands and arms.

Thirteenth Graduate Course.—The extension division of the University of Washington will present its thirteenth graduate medical course at Seattle, July 15-20. The lecturers will be Dr. John S. Coulter, assistant professor of physical therapy, Northwestern University Medical School, Chicago, who will give five lectures and demonstrations on physical therapy and radiation; Victor C. Myers, Ph.D., professor of biochemistry, Western Reserve University School of Medicine, Cleveland, will give five lectures on blood chemistry, clinical tests of renal function, new laboratory tests in the diagnosis and treatment of nephritis and other laboratory subjects; Dr. Richard Jaffe, director of the Cook County Hospital Laboratory, Chicago, will give six lectures on hypertension, congenital syphilis, precarcinomatous conditions, tuberculosis and jaundice, and Dr. Jennings C. Litzenberg, professor of obstetrics and gynecology, University of Minnesota Medical School, Minneapolis, will give five lectures on pelvic infection, postpartum care, the general practitioner's place in control of cancer of the uterus and the endometrium in health and disease.

WEST VIRGINIA

State Supplies Vaccine Without Charge.—The state health department has announced that it will furnish county and city health officers, and through them general practitioners, with typhoid vaccine without charge. For the first five weeks following the announcement requests came in from fifteen counties for enough vaccine to immunize 7,000 persons. Last year in West Virginia, the state health commissioner, Dr. William T. Henshaw, is reported to have said that there were about 1,750 cases of typhoid and 175 deaths.

Society News.—Dr. Ernest R. McIntosh, Elkins, addressed the Barbour-Randolph-Tucker County Medical Society at Philippi, recently, on "Vitreus Opacitus," and Dr. Winfield Scott Smith on "Prenatal Care."——Drs. Edward W. Howard and Dorsey P. Fitch, who have been on the staff since its founding, were guests of honor at the celebration of Founder's Day of Cook Hospital, Fairmont, May 28.——The Raleigh County Medical Society was addressed, recently, by Dr. James C. Small, Philadelphia, on "Etiology and Treatment of Rheumatic Diseases."——Among others, Dr. Willie H. Howell addressed the Monongalia County Medical Society at Morgantown, June 4, on "Gelatinous Carcinoma in Young Boys."——Dr. William S. Webb, Wheeling, recently won twenty of the thirty-two prizes in the first annual flower show at Wheeling. Dr. Webb maintains gardens at his home and on a farm in Ohio County.

Notes About the State Meeting.—The movement to provide a permanent home for the West Virginia State Medical Association acquired additional impetus at the annual meeting, although it is realized that the present is not the time to undertake the construction or purchase of a home. The state society recently moved into larger quarters. McDowell County Medical Society has voluntarily agreed to set aside a percentage of its net surplus each year for a building fund for the state society. The Kanawha County Medical Society assists in paying the rent of the new quarters at Charleston, and has agreed to pay half the cost of furnishing the library room. No campaign has been undertaken to raise funds for a state home. The executive secretary reported at the meeting 1,005 paid-up members as against 971 at the meeting in Fairmont. The medical journal has been enlarged and improved and this has been the means of providing additional revenue. The journal's savings account was about $2,300 at the time of the annual meeting, whereas at the previous annual meeting it was only $1,000 and at the 1927 meeting in place of a savings account there were several hundred dollars of outstanding obligations. The house of delegates of the state medical association at the annual meeting changed the entire section of the by-laws pertaining to medical defense. The medical defense committee will still function, however, by giving support to all worthy defendants in malpractice actions. The state medical society has a new unit in the Mason County Medical Society, organized, June 27, at Point Pleasant; Dr. Charles W. Petty, Hartford, was elected president, and Dr. Hugh A. Barbee, Point Pleasant, secretary.

GENERAL

Honorary Degrees.—At the recent commencements the following honorary degrees were awarded by the colleges indicated:

Albert C. Broders, M.D., Mayo Clinic, Rochester, Minn., D.Sc., Medical College of Virginia.

Joseph A. White, M.D., emeritus professor of ophthalmology, Medical College of Virginia, Richmond, LL.D., Mount Saint Mary's College, Emmitsburg, Md.

Clarence A. Shore, M.D., director, North Carolina Laboratory of Hygiene, Raleigh, LL.D., University of North Carolina.

Walter B. Cannon, M.D., George Higginson professor of physiology, Harvard University, Cambridge, LL.D., Boston University.

James F. Norris, Ph.D., director, research laboratory, Massachusetts Institute of Technology, D.Sc., Bowdoin College.

Borden Smith Veeder, M.D., professor of clinical pediatrics, Washington University School of Medicine, St. Louis, D.Sc., Colgate University.

Appointments by National Research Council.—The following appointments for the next academic year have been made by the medical fellowship board of the National Research Council, of which Dr. Gotthelf Carl Huber, professor of anatomy, University of Michigan School of Medicine, is chairman: (1) new appointments; Edgar V. Allen, internal medicine; Claude Forkner, pathology and clinical investigation; Emidio L. Gaspari, bacteriology and immunology; Arthur K. Koff, obstetrics; Leone McGregor, pathology; Charles Midlo, anatomy; Bruce Webster, internal medicine; (2) reappointments: Simon Dworkin, physiology; Stephen J. Maddock, experimental surgery; Kenneth I. Melville, pharmacology and physiology; Valy Menkin, physiology; David M. Rioch, neurophysiology; Ethel D. Simpson, physiology. The board will hold its next meeting, September 14. According to *Science*, applications should be filed before August 1 in order to receive consideration at that time.

Medal for Service in Public Health.—The American Public Health Association will consider this year the first award of the Sedgwick Memorial Medal, which was established in honor of the late Prof. William T. Sedgwick, Ph.D., one of its presidents, whose friends raised the fund which provided the medal. There is no restriction as to the service that will be considered in awarding the medal except that it is limited to the field of public health. Citizens of the United States, Canada and Mexico are eligible. The committee, which will not consider direct applications from candidates, asks for nominations giving the name, address, age, country, degrees with date and institutions from which received, and a brief description of the service for which the candidate is recommended. Nominations should be addressed to the secretary, Homer N. Calver, 370 Seventh Avenue, New York. The committee reserves the right to refrain from making any award this year.

American Conference on Hospital Service.—A contract has been signed providing that the library of the American

Conference on Hospital Service be taken over by the American Hospital Association and be maintained for three years as a department of the association, effective July 1. The American Conference on Hospital Service was incorporated in Illinois in 1920, the charter members including the American Hospital Association, American Medical Association, Catholic Hospital Association of the United States and Canada, American College of Surgeons, American Association of Industrial Physicians and Surgeons, Association of American Medical Colleges, Federation of State Medical Boards of the United States, American Nurses Association, American Association of Hospital Social Workers and the medical departments of the U. S. Army and Navy and U. S. Public Health Service; other organizations became members later. The following have resigned from the conference: American College of Surgeons, American Institute of Homeopathy, Association of American Medical Colleges and the Federation of State Medical Boards of the United States. The conference, whose object was the betterment of hospital service, organized the hospital library and service bureau which was to collect and index information on hospital and public health activities. The bureau has for years gratuitously distributed information to building committees, health officials, hospital superintendents and others. The constituent members of the conference and individuals and hospitals have contributed to the support of this work. The headquarters of the bureau have been in the building of the American Hospital Association, 18 East Division Street, Chicago, since 1927. The directors of the American Hospital Association and a committee of the conference came to believe that the hospital association was fitted to assume the administration of the bureau for the best interest of all concerned. It is understood that members of the conference have not definitely disposed of their equity in the library and that they will continue to be interested in its development. It is hoped that within this three year period the cooperation from members of the conference, hospitals and members of the association will be such as to place the library on a permanent financial basis.

Bequests and Donations.—The following bequests and donations have recently been announced:

Children's Homeopathic Hospital and Home of the Merciful Savior for Crippled Children, Philadelphia, to share equally in the residuary estate (about $24,000) of the late Miss Louisa C. Riesterer, and $5,000 each to the Home for Incurables and St. Christopher's Hospital for Children.

Burlington County (Pa.) Hospital, $25,000, Christ Church Hospital and the Pennsylvania Hospital, Philadelphia, each $200,000, and the Episcopal Hospital, Hospital of the Women's Homeopathic Association, Wills Eye Hospital, all of Philadelphia, and the Hospital for Poor Consumptives, White Haven, Pa., and the Children's Seashore House and Seaside Home for Invalid Women, Atlantic City, each $100,000 by the will of the late Miss Mary A. Dobbins of Philadelphia.

Hahnemann Hospital, Philadelphia, $5,000 by the will of Mrs. Clara N. Madeira as a memorial to her father.

Presbyterian Hospital, Philadelphia, $20,000 by the will of the late Gustav A. Bisler.

Mrs. Margaret Hillenbrand, Batesville, Ind., bequeathed in her will $60,000 to provide for a hospital in that city to be operated not for profit, the trust to be administered by her son and daughter. The trustees may negotiate with organizations, societies or corporations formed for the purpose of operating hospitals and should they fail to be interested within three years the gift may be divided among other organizations of Batesville.

Tulane Educational Fund, $50,000 to establish the Viola Knapp Memorial Fund as a memorial to her daughter, the income from which is to be used to assist worthy young men through Newcomb College either by providing scholarships or in assisting in their maintenance; Charity Hospital, New Orleans, $5,000; Kingsley House and the Louisiana Anti-Tuberculosis League, $2,500 each, and $1,000 each to the New Orleans Home for Incurables and the New Orleans Day Nursery.

The city of Weirton, Ohio, $25,000 by the will of D. M. Weir for the erection of a hospital.

Lenox Hill Hospital, $170,000 for semiprivate patients, and Foundling Hospital $2,000, both of New York, by the will of the late George Ehret.

Taylor Hospital, Ridley Park, Pa., $5,000 by the will of Mrs. Mary J. Lion of Norwood as a memorial to her mother. Lankenau Hospital, Philadelphia, $5,000 by the will of Mrs. Marcella Gavit Buchanan, to be received after the death of Flora M. Jones.

Union Memorial Hospital, Baltimore, $150,000, and Hospital for Women of Maryland, $50,000 by the will of the late Mrs. Rose J. Coleman of Washington.

New York Infirmary for Women and Children, $10,000, by the will of the late Olivia Egleston Phelps Stokes. Montefiore Hospital, $10,000, and Mount Sinai Hospital, New York, $20,000, by the will of the late Michael P. Rich.

Children's Aid Society, New York, $10,000 by the will of the late Brander Matthews of the faculty of Columbia University, as a memorial to his father.

New York Polyclinic Medical School and Hospital, about $40,000 from the estate of the late Miss Louise Allen Pryor.

French Hospital, New York, $25,000 by the will of the late George E. Beers.

Children's Hospital and the Salvation Army of Los Angeles, each $100,000, and the National Tuberculosis Association more than $300,000 by the will of the late Mrs. Grace Velie Harris, formerly of Moline, Ill., and recently of Carmel, Calif.

Craig Colony, Denver, $5,000; Sands Home, at Denver, $5,000; Greenwell Springs Sanatorium, Baton Rouge, La., $12,500, by the will of the late Mrs. Mary J. Walker, Lake Providence, La.

New York, St. Luke's and Woman's hospitals, and the National Committee for the Prevention of Blindness, each $10,000, and the Presbyterian Hospital, New York, $7,000, by the will of the late Mrs. Mary L. Walker Peters.

New Rochelle Hospital, New Rochelle, N. Y., $10,000, by the will of the late Laura Jenkins.

Beth Israel Hospital, New York, $2,000 now, and $22,000 on the death of his daughter by the will of Dr. Joseph Barsky, a member of the staff for many years.

Methodist Episcopal Hospital, $500 by the will of Mrs. Eleanor H. Anderson of Indianapolis.

Presbyterian Hospital and the Presbyterian Orphanage, Philadelphia, more than half of her $15,000 estate by the will of Miss Clara Taylor, Philadelphia.

Methodist Episcopal Hospital, Philadelphia, $125,000 from Charles J. Eisenlohr to complete a new building and provide a solarium, several operating rooms and other improvements.

St. Luke's Hospital, New York, will receive much of the estate of the late Mrs. Katherine E. Trumbull, Princeton, N. J., which, it is estimated, exceeds $1,000,000.

Lutheran Hospital and Mount Sinai Hospital, New York, each $5,000 by the will of the late Louis C. Raegner.

St. Vincent's Hospital, Mount Sinai and Seton hospitals, New York Foundling Hospital, all of New York, and St. Agnes Hospital for Crippled Children, White Plains, each $25,000; Home for Incurables, $30,000; St. Luke's Hospital, $15,000; Roosevelt and New York hospitals, all of New York, each $10,000 by the will of Peter F. Meyer.

Stetson Hospital, Philadelphia, $10,000 by the will of the late Countess Santa Eulalia of San Fernando, Calif.

Children's Memorial Hospital, Chicago, $2,000,000 by the will of the late Mrs. Adeline Wheeler, as a trust fund, the income to be paid to the hospital.

Philadelphia Hospital for Cancer and Rush Hospital for Consumption and Allied Diseases, each $5,000 by the will of the late Ella Pancoast Widener.

St. John's Riverside Hospital, Yonkers, N. Y., $500,000 by the will of the late Alexander Smith Cochran, carpet manufacturer of New York.

St. Agnes' Hospital, St. Mary's Hospital and St. Edmond's Home for Crippled Children, all of Philadelphia, each $5,000 by the will of the late Rev. James Timmins of that city.

American Hospital in Paris, $15,000 for endowment by the will of the late Ambassador Myron T. Herrick.

St. Luke's Hospital Training School for Nurses Alumni Association, New York, $10,000 by the will of the late Dr. Robert Abbe.

Lebanon, Beth Israel, Montefiore, Mount Sinai hospitals and the Hospital for Joint Diseases, all of New York, each $10,000 by the will of the late Emil Heller.

St. Vincent's Hospital, $2,000; St. Agnes' and St. Joseph's hospitals, all of Philadelphia, each $500 by the will of the late Martin Maloney.

Babies' Hospital, Wrightsville Sound, $5,000, and the Home for Incurables, Washington, D. C., $10,000 by the will of Charlotte Arnold H. Bryson.

Touro Infirmary, New Orleans, $37,500 by the will of the late Valentine Merz of that city.

Where Are the Hospitals?—The eleventh edition of the American Medical Directory contains data on 7,542 hospitals in the United States and its dependencies and Canada. The Council on Medical Education and Hospitals of the American Medical Association has approved 627 of these hospitals for the training of interns. They are listed in the new directory on pages 37 to 44. Another list follows of 297 hospitals which the Council has approved for residencies in specialties. The number of hospitals by states is shown on page 8. The directory is published by the American Medical Association, 535 North Dearborn Street, Chicago.

LATIN AMERICA

Rabies in Buenos Aires.—The Pasteur Institute of Buenos Aires, during 1928, cared for 8,024 persons bitten by animals suspected of having rabies. It was necessary, the director of the institute reported, to give treatment to 1,863 of these victims, all but two of whom were treated successfully.

Award for Work on Pseudoleprosy.—Dr. Rodolfo Robles has been awarded the Jules Brault Prize by the Academy of Medicine of Paris for his thesis on pseudoleprosy, a disease found in Guatemala which, it is said, has hitherto been unclassified. Dr. Robles was engaged in research at Paris at the time of the award.

Hospital News.—The 124 bed Elvira Machado Maternity Hospital now being erected at Havana is the first in Cuba to be exclusively for poor mothers. It will have an amphitheater for the use of medical students, and various laboratories. Cuba has authorized also the establishment of a tuberculosis hospital in the suburbs of Havana which will cost about $350,000.

Personal.—The president of Honduras, Dr. Vicente Mejia Colindres, who was inaugurated, February 1, is a doctor of medicine.——Dr. E. Blanco-Acevedo of the faculty of medicine of the University of Montevideo is visiting medical centers in the United States to gather plans for a $10,000,000 medical center to be erected in Montevideo, of which he will be the president.

Colonel Ashford Honored.—An anonymous donor has given $10,000 to the School of Tropical Medicine in San Juan, Porto Rico, to be known as the Bailey K. Ashford Fellowship Fund to support research on problems pertaining to tropical

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medicine in Porto Rico. The university has appointed a committee to administer the fund, comprising Drs. James W. Jobling, Frederick P. Gay, and Earl B. McKinley of New York, José Belaval and Colonel Ashford (THE JOURNAL, Feb. 25, 1928, p. 622).

Government Services

Surgeon Frost Resigns

Dr. Wade Hampton Frost, surgeon, has resigned from the U. S. Public Health Service, effective August 8. Dr. Frost has been in the public health service for about twenty-three years, during which time he has become widely known as an epidemiologist. He is also professor of epidemiology at the School of Hygiene and Public Health at Johns Hopkins University, Baltimore.

Change of Station in the Army

The war department recently directed the following medical officers to report for duty at the stations indicated: Major Wibb E. Cooper to Fort Leavenworth as flight surgeon; Major Albert W. Greenwell to Fort Eustis, Virginia; Capt. Thomas G. Tousey to Letterman General Hospital, San Francisco; Major Herbert L. Quickel to Fitzsimons General Hospital, Denver; Col. Thomas S. Bratton on completion of his foreign service tour to headquarters, Fort McPherson, Georgia; Col. Thomas L. Rhoads to headquarters, second corps area, Government Island, N. Y., on completion of his present tour in the Philippine Islands; Major David N. W. Grant to station hospital at Fort Sam Houston, Texas; Capt. Benjamin W. Lewis to Fort Mason, California, for duty as transport surgeon; Capt. Guy D. Griggs to Fort Sam Houston, Texas; Capt. John S. Gibson to Walter Reed General Hospital; Major Samuel C. Gurney to Fort Worth, Texas, as instructor in national guard; Major Luke B. Peck to the general dispensary, New York; Capt. Francis J. Clune to Fort Sam Houston, Texas, and Capt. Leroy D. Soper to William Beaumont General Hospital, El Paso, on completion of their foreign tour; Major Frank S. Matlack to Carlisle Barracks, Pa.; Lieut. Orlo C. Paciulli to Walter Reed General Hospital for duty; Major Walter F. Macklin to Fort McPherson, Georgia, and Capt. Lewis E. J. Browne to Fort D. A. Russell, Wyoming; Major William K. Evans to Fort Des Moines, Iowa, and Major Thomas L. Ferenbaugh to Fort Monmouth, N. J.; Major Thomas J. Flynn from the surgeon general's office to Brooklyn for duty at the general depot; Major George R. Callender to the general dispensary, Baltimore; Capt. Aubrey K. Brown to Fort Des Moines; Capt. Harold V. Raycroft to sail about October 19 for the Hawaiian Department; Capt. Morgan C. Berry to Fort Monroe, Virginia, on completion of his tour in Hawaii; Major Raymond W. Whittier to Balboa Heights, Canal Zone, about September 19, and Capt. Henry E. Fraser to the Hawaiian Department about September 27; Major Raymond E. Scott to the sixth corps area laboratory, Fort Sheridan, Illinois; Capt. Thomas H. Reagan to the Hawaiian Department about September 27; Major James P. Crawford to sail about August 20 for the Philippine Islands; Capt. Brooks C. Grant to Fort Sam Houston, Texas; Capt. Julius G. Newgord to Fort Benning, Georgia.

U. S. Public Health Service

Lunsford D. Fricks has been promoted to the grade of senior surgeon, effective, March 15, and Raymond A. Vonderlehr to passed assistant surgeon, effective, April 15.——Surg. Roy P. Sandidge will be relieved from duty at Cologne, Germany, about August 15, and assigned to Southampton, England.——Associate Sanitary Engineer Frederic J. Moss has been relieved from duty at Chicago and assigned to Washington, D. C.——The following medical officers have been promoted to the grade of surgeon: Russell R. Tomlin, Lester C. Scully, Floyd C. Turner and Marion R. King.

CORRECTION

Discussion Incomplete.—In a written communication, Dr. L. G. Rowntree states that his discussion of Dr. J. B. Herrick's paper, "Unsolved Problems Concerning Acute Coronary Obstruction," was incomplete as it appeared in THE JOURNAL, June 22, 1929, page 2132. He writes: "I stated that this work was carried out by Dr. A. R. Barnes and Dr. M. B. Whitten and I think that it is only fair that they have the credit."

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 15, 1929.

The Pre-Roman Inhabitants of England

Sir Arthur Keith delivered his presidential address at the annual congress of the South-Eastern Union of Scientific Societies on "The Pre-Roman Inhabitants of Southern England." He described skeletons that had been discovered in shallow graves on the South Downs. Common cranial characteristics showed that they had some affinity to the "beaker" people who began to swarm into England from central and northwestern Europe about 2000 B. C. There was evidence that these grew and ground grain, kept domesticated cattle, had looms, hunted, and made pottery. Discoveries in Belgium showed that the men who dug in the chalk-downs there were the same kind of folk and carried on the same industry. There was much yet to be found out about the "beaker" invasion of England, which began about 2000 B. C. or soon after. This people seemed to have prevailed in England for many centuries. As time went on, their blood was apparently swamped by that of the ancient natives of England. The long-barrow type suffered the same fate, and by the beginning of the first millennium B. C. the British type had probably reasserted itself. The contents of pits found beneath the turf proved that during the later or La Tene phase of iron culture there was settled life during the centuries which preceded the coming of the Romans. The skeletons were of the Nordic type, which gave England both her Celts and her Saxons. The type still abounded in all parts of Britain—in Wales, in Yorkshire, and more particularly in the southwestern counties of England. Apparently the type survived the Roman and Saxon invasions. Westward in England, skeletons of pre-Roman British became more numerous. In the excavations of the marsh village at Glastonbury, skulls of the inhabitants were found. Although their mode of life differed, those marsh-dwellers were of the pit-digger racial type. No doubt both spoke a Celtic tongue. The dark period of English prehistory was in the centuries that intervened between the "beaker" period in its prime and the coming of Celtic iron users. This gap in our prehistory would be filled up in due course, and it should yet be possible to trace the people of England down the centuries from the paleolithic times to the present. The idea that early history could be written only by means of early manuscripts died hard; men scarcely realized that the earth, particularly the kindly chalk, was laden with historical records. Archeology had become a science, and its main object was the restoration of human history. He hoped that what was at present a puzzle and a period of darkness would be familiar knowledge to the schoolboy of the next century.

Compulsory Labeling of Artificial Cream

When preservatives in cream were banned, as reported previously, venders faced by the difficulties that arose had recourse to artificial substitutes. A widespread demand was created for emulsifiers, which were used to turn out two varieties of cream, known as reconstituted cream and synthetic cream, to replace the natural product. The former was made from imported butter, imported milk powder and water. In the synthetic variety, some fat other than butter-fat was employed; even fat recovered from sewage was eligible. These products could be produced, distributed and sold with impunity under any conditions, since they did not come under the statutory control exercised over genuine cream. It is now illegal to sell "reconstituted cream" under any designation containing the word cream unless this is immediately preceded by the word

"artificial." Not only venders and manufacturers of "artificial cream" but also restaurants using it must be registered, so that a person who orders a fruit salad and cream will be able to tell what he is getting.

Arthur H. Cheatle: A Great Authority on the Temporal Bone

The death in his sixty-third year of Mr. Arthur H. Cheatle, aural surgeon to King's College Hospital, has removed an authority remarkable for his work on the temporal bone. He showed how the clinical features of suppurative middle ear disease are influenced by the anatomic type of temporal bone. In the Royal College of Surgeons is housed a collection of temporal bones made by him over a period of thirty years. It consists of 700 specimens displaying the varieties of structure of the mastoid region and the influence of sex and of age. This is the most complete collection ever made to illustrate the surgical anatomy of the middle ear and its accessory sinuses. There is a descriptive catalogue prepared by Cheatle himself. Under his supervision about 200 of the specimens were photographed and lantern slides prepared for the needs of teachers. Surgeons come from all parts of the world to study the collection. As a result largely of his teaching, mastoid operations are on a firmer anatomic basis. In 1907 he delivered hunterian lectures at the Royal College of Surgeons on the "Surgical Anatomy of the Temporal Bone from Birth to Adult Life," which have been published in one volume.

Safety of Life at Sea: Additional Apparatus

The subject of boats and other life-saving appliances on passenger ships has been under consideration by a committee of the International Conference on Safety of Life at Sea, which has met in London. At the previous international conference in 1914, which followed on the loss of the *Titanic*, public interest was centered in the question of life-saving appliances. The lifeboats on the *Titanic* were sufficient for 1,178 persons, but only 652 left in boats out of a total of 2,201 persons on board. The popular demand was for "boats for all," and the conference made provision to meet this. For some years practically all ocean-going passenger ships have been required to supply them. The experience gained since 1914, however, has shown the necessity for boats being carried so as to be readily available for launching; it has also proved that where this requirement is not complied with the provision of large numbers of lifeboats may be a source of danger. The Life Saving Appliances Committee has therefore kept in mind two main principles: (1) that all the life-saving appliances on a ship shall be readily available and (2) that they shall be adequate. On these matters the committee's proposals are that (1) every lifeboat should be so carried as to be readily available in an emergency, and no boat should be carried which will impede the prompt handling of the boats available; and (2) these readily available boats on ocean-going passenger ships should provide accommodation for all persons on board. In addition, the committee proposes that light, buoyant apparatus should be provided with something to which persons can cling if, by reason of the rapid sinking of the vessel, it has been impossible to get them away in the boats. Such apparatus is an additional measure of safety and is to be provided in a determined proportion to the number of persons on board. In view of the improved reliability of motor lifeboats, the committee holds that, when more than a certain number of lifeboats are carried, one or more should be motor boats, fitted with wireless installations and searchlights. The advent of large lifeboats has been taken into account by the committee, and special conditions applying to such boats are proposed, including a limit on their weight and a requirement for the fitting of a motor (together with extra buoyancy) in lifeboats carrying 100 persons or more. Another subject considered is the question of regular musters of crew for boat drill, and an internationally uniform emergency signal for summoning passengers to muster stations in the event of an emergency. As regards the use of life rafts, it has been found that, on certain special voyages, life rafts have proved to be of greater service than inboard boats. The committee contemplates that ship owners might, if satisfied that rafts will be more useful than the boats which they replace, allow rafts in substitution for boats over and above a certain specified minimum accommodation in lifeboats, such minimum being sufficient to insure that in the North Atlantic passenger trade, and in most of the other trades, lifeboat accommodation will be provided for all. The committee has reviewed the provisions on fire-extinguishing appliances framed in the convention of 1914. Those were made in reference to coal-burning ships; but, in view of the new position from the extended use of oil, proposals for dealing with fires in oil-using ships have become necessary. The main problem here is the danger of the rapid spread of fire in the stokehold, and this calls for the provision of means for the immediate blanketing of a fire from outside the stokehold by the use of froth, foam and carbon dioxide, as now provided for on many large oil-burning vessels.

Natural History Lectures to Blind Children

The trustees of the British Museum arranged for a series of experimental demonstrations to blind children to be given at the Natural History Museum during the past few months by the guide-lecturer Mr. J. H. Leonard. The children were brought from the schools of various institutions, placed round a table, and allowed to handle the specimens, mostly of animals, laid out on it, and then moved from one specimen to the next, while the guide-lecturer passed from one to another talking about the specimens and giving explanations suited to the years of the pupils. The trustees feel so convinced of the importance of this work that they have arranged for its being continued and extended. Since the exhibits in the public galleries cannot be exposed to handling, a special series of specimens is being collected and set aside for the use of the blind. Later on it is hoped that it may prove possible to set aside a room where this special collection may be kept and the demonstrations given.

The Deaf and Dumb in Industry

The National Institute for the Deaf has made an investigation into the industrial conditions of the deaf and dumb, and has issued a report which describes the difficulties of placing them in permanent employment, and asks for an official inquiry into the whole matter. Exact statistics are not available, but 40,000 is the generally accepted number of the persons in the United Kingdom either born deaf or who become deaf so early in life as to prevent the natural development of speech. Special schools for the deaf are provided by the state. Development of language without hearing is a slow process, and it is not surprising that deaf children leave school at 16 seriously retarded both in acquired knowledge and in the ability to express it, though this retardation does not represent a corresponding backwardness in general intelligence. Having to compete with those who hear, both for training and for employment, the deaf have need of special assistance. Manual instruction has always been included in the curriculums of the schools for the deaf, and the average deaf child leaves school with a fair degree of trained manual dexterity; but there is usually a difficulty in placing him in employment. The deaf are classified as 20 per cent very intelligent, 20 per cent backward and 60 per cent of average ability. But even for those of average or more than average ability the handicap of deafness persists. Some of the difficulties in the way of their securing employment may be mentioned: 1. Modern industrial conditions afford little time for the additional attention needed to teach deaf workers in a workshop or factory. 2. The normal age for young persons to enter industry is 14, and deaf children are not available till 16 and cannot be fitted

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into the existing schemes without special arrangements. 3. Trade board scales of wages adversely affect the deaf, as the hearing learner has had two years' experience of his craft at the age of 16 and employers are unwilling to pay equal wages to a deaf beginner of similar age. 4. The fear is prevalent, though scarcely justified, that the deaf are more liable to accidents than those who hear. Except in trades necessitating dangerous machinery, the deaf, whose life-long affliction has developed quickness of eye, are as immune from accident as those who hear. In addition to the inherent social hardships of deafness there are others, due to legislation and the failure to recognize the conditions set up by the affliction, which adversely affect the efforts of the deaf to merge themselves into the industrial system of the country. The report therefore suggests that an official inquiry should be made with a view to the amelioration or removal of the difficulties described. In respect of the elderly deaf and dumb, the lowering for them of the qualifying age for old-age pensions is suggested.

PARIS

(From Our Regular Correspondent)

June 5, 1929.

A Contribution to the Epidemiology of Influenza

The Société médicale des hôpitaux de Paris was entertained recently with an elaborate paper by Prof. Fernand Bezançon and his co-workers Chevalley, Pollet and Célice on the widely different characteristics of the more recent epidemics of influenza. The clinical characteristics observed in connection with the epidemic last winter, during the months of January, February and March, were quite different from those observed during the years 1889 and 1918, when influenza raged throughout the world. During the recent epidemic, the nerve manifestations, so characteristic of the type of influenza that prevailed in 1889 and 1918, were much less prominent. The same is true of the hemorrhagic phenomena, although it is true that these were observed to a certain extent. The dominating characteristics were the phenomena of catarrh of the upper respiratory passages and the grave bronchopulmonary manifestations. These manifestations, except for their frequency and gravity, were of the type of ordinary seasonal bronchopulmonary symptoms: pulmonary congestion, corticopleuritis and, especially, bronchopneumonia and lobar pneumonia. They were complicated with pulmonary suppurations, but the cyanotic and asphyxial types were exceptional. One observed, in fact, veritable epidemics of bronchopneumonia, then lobar pneumonia, in which the symptoms of influenza were often completely absent. These respiratory phenomena were quite different from those observed in 1918, in which year (or at least in the months of August and September, for that was a summer influenza) the forms with cyanosis, edema and intrapulmonary hemorrhage predominated. The epidemic of the winter of 1929 was, however, differentiated from the ordinary seasonal manifestations by its high degree of gravity and, particularly, by its diffusion. It was widespread in Europe and in other parts of the world. Professor Bezançon holds that, from the epidemiologic and clinical point of view, one may observe three types: (1) the great pandemics, such as the influenza of 1889 and 1918, when the nervous phenomena and the respiratory complications are of a special type that prevails at all seasons, even in summer; (2) the ordinary seasonal catarrhal type of winter, which may take on the epidemic type but produces only local epidemics; (3) the present epidemic type, difficult to classify, which was observed as far back as 1904, particularly, and which has assumed the character of a world-wide pandemic but in which the phenomena of influenza are unobtrusive, the whole epidemic taking on more the nature of an outbreak of catarrh, bronchopneumonia and lobar pneumonia. The difficulty of classification arises also from the fact that, in the influenza epidemics of the type of 1889 and 1918, one observed, during certain periods of the epidemic, as has been clearly pointed out by M. Jacquet of Bourges, just an ordinary epidemic of contagious bronchopneumonia, which in reality presented nothing of an influenzal nature, succeeding the epidemic of true influenza. M. Rist has made the observation that the influenza epidemic, on its appearance in a tuberculosis ward, did not aggravate the lesions due to tuberculosis.

The First International Congress on Sanitary Aviation

The transportation of the wounded by airplane, in peace and in war, is an innovation in which France has taken a prominent part from the start. The first attempt was made in 1910, at Camp Châlons, by the aviatrix Mlle. Marie Marvingt. In 1912, the system was organized under the direction of Professor Richet and Dr. Reymond, senator and aviator. During the war, the first evacuations of the wounded on the battlefield were made in 1915 in Albania and in Serbia, with army planes. The first plane equipped specially for this purpose, with stretchers for two wounded persons put to bed, was created by Dr. Chassaing, member of the chamber of deputies, and the trial flight was made at Villacoublay, near Paris. Today, France employs the *aréochir*, which was designed by Némirowsky and Dr. Telmant and which rendered excellent service during the campaigns in Syria and Morocco.

The first International Congress on Sanitary Aviation convened, May 18, at Paris, under the chairmanship of Prof. Charles Richet, and was a great success. Forty nations participated in the congress, the meetings of which were held in the Great Hall of the Sorbonne and at the Institut océanographique, while the demonstrations of equipment took place at the Aérodrome d'Orly, near Paris. The papers presented dealt with the following subjects: Sanitary Aviation in Exterior Fields of Operation, Sanitary Aviation in the Colonies, Sanitary Aviation in the Navy in Time of War, Aviation as an Instrument of Evacuation of the Wounded in Time of War, Immunization of Sanitary Planes During Battle, Physiologic Conditions for Transportation by Plane, Considerations on the Treatment of Patients and the Gravely Wounded Transported by Sanitary Plane (Dr. Tuffier), Sanitary Aviation in Time of Peace, Sanitary Equipment for Air Transportation, Transportation by Sanitary Plane in Sweden (Dr. Fritz Bauer), Sanitary Aviation in the Italian Colonies (Héligines Lotti of Badia). Following the presentation of the papers and the general, open discussion, the delegates of the forty nations who took part in the congress adopted the following resolution:

1. The nations represented at the congress shall promote by all means in their power the extension and the development of sanitary aviation in all its branches. 2. Every facility shall be accorded in time of peace to sanitary planes which will aid their flights, by recognizing their absolute and prior right to use the conveniences of airports and aviation fields and all means of rapid transmission, and by according them undisputed passage over frontiers. 3. It shall be the policy of aviation fields to permit the widest possible utilization of the sanitary plane, special consideration being shown to those regions that are particularly lacking in means of communication and transportation. 4. The equipment of commercial planes with the facilities of sanitary planes shall be encouraged, in order that they may be employed, either in times of peace, in the event of accidents or public calamities, or in time of war, for normal sanitary evacuations. 5. Societies or private enterprises proposing to construct or to utilize sanitary planes shall receive from the public authorities all the financial and moral support needed to carry out their plans. 6. The status of sanitary planes shall be established as soon as possible with reference to their immunity within the scope of international agreements, and notably the Convention of Geneva, in order that they may be assured all the protection now accorded to all means of transportation utilized for sanitary evacuations.

The program of the next congress will deal, among other subjects, with the following four topics: (1) The Equipment of Sanitary Planes; (2) The Safety, from All Points of View, of the Sanitary Planes; (3) The Medicosurgical Contraindications to Transportation in the Sanitary Plane, and (4) The Air Sanitary Corps. The last topic is of interest to a number of nations—France, among others—that have not yet established

an air medical corps. Dr. Garsaux, head of the medical examination and research centers for aerial navigation, has expressed very clearly his views in favor of the earliest possible creation in France of an air sanitary corps, or medical corps. Friday, May 17, at the Aérodrome d'Orly, demonstrations and exhibition flights of various sanitary planes awakened great interest among the conventionists.

Refusal of French Physicians to Cooperate in the Pending Application of the New Social Insurance Law

The new social insurance law, the provisions of which have awakened, during the two years that it has been in course of preparation, many protests from the medical profession, is now being retarded in its application by complaints coming from all parts of the country. The agriculturists, who constitute a large proportion of the electorate, have registered their complete opposition to the law since they have taken account of the financial burdens that it will impose on them. The government has been obliged to consent to lower the scale of their contributions. The workers' unions have declared, in turn, that they will pay nothing. The commercial and industrial employers' syndicates do not conceal the fact that the sums that are demanded of them will have to be added to the cost of production, which will be reflected in a corresponding increase in prices. Hence, the outlook with reference to the application of the law is far from favorable. Many members of parliament who voted for the law in haste, on the eve of the general election, are now regretting their action; though some doubtless view with interest the prospect of the creation of 200,000 jobs for government clerks that the execution of the law will necessitate, as it will afford them an opportunity to find positions for their political friends. Under these conditions, which appear favorable for the rallying of public opinion in its favor, the medical profession has renewed its attacks on the law, which may possibly result in its repeal. The general assembly of the Confédération des syndicats médicaux français, which includes in its membership the 17,000 French physicians who are members of syndicates, met, June 3, 1929, to consider the subject of social insurance, and, after study of the question by all the medical syndicates, adopted unanimously the following resolutions:

The organized medical profession again declares that it is in no wise hostile to the principle of a social insurance law. But it declares that it cannot cooperate in a social insurance law unless the conditions that it considers necessary and serviceable for a self-respecting physician are provided for by the law, thus obviating all possibility of the scandalous happenings that have, with perfect justice, aroused public opinion. These conditions have, on repeated occasions and in ample time, been brought to the attention of the government and of parliament. In view of the fact that no satisfaction has been given the medical profession, the Confédération des syndicats médicaux français, activated by lofty motives and inspired by a sense of professional and social accountability, refuses to cooperate in the application of the social insurance law passed by the chamber of deputies, April 5, 1928.

Awarding of the Prince of Monaco Prize

Prince Albert de Monaco, who was a corresponding member of the Academy of Medicine, bequeathed to the academy the sum of one million francs ($40,000) with which to establish a prize of 100,000 francs ($4,000), to be awarded every two years to the scientist or savant who has contributed the most important discoveries in the interval. The prize has recently been awarded by the academy to Professor Borrel, at present director of the Institut d'hygiène in Strasbourg, and formerly one of the collaborators of the Institut Pasteur in Paris. This award takes account more particularly of his important researches on the etiology of cancer, which he contends to be of parasitic origin. Borrel is known also for his researches on the serotherapy of tetanus. He was the first to treat tetanus by injections of serum directly into the brain tissue through a cranial perforation made with the aid of a drill.

NETHERLANDS

(From Our Regular Correspondent)

April 25, 1929.

The Crusade Against Bovine Tuberculosis

As a condition for according state aid in the crusade against bovine tuberculosis, the minister of the interior and of agriculture has demanded, among other things, that all cattle belonging to members of the Association pour la lutte contre la tuberculose bovine shall be subjected to a veterinary examination and to the tuberculin test. The members are likewise urged to support and adopt hygienic cattle raising. Cattle affected with active tuberculosis will be killed as soon as possible through the mediation of the association in agreement with the inspector of the veterinary service. Such cattle of members as present a positive reaction to tuberculin will be branded, as soon as possible, with a distinctive mark. The place of the mark and the accessory details are indicated by the director of the veterinary service. The state subsidies are fixed at 25 florins ($10) per head for animals killed after the detection of active tuberculosis.

At the seventy-eighth Congress on Rural Economy, held in 1926, the problem of organizing an effective crusade against tuberculosis was considered. It was emphasized that the first thing needed is to reduce the chances of contamination, and, to that end, the support of the small cattle raisers and a voluntary crusade on their part are highly important. They should acquire only stock free from active tuberculosis or presenting a negative reaction to tuberculin. It would be to the interest of those who are not cattle raisers to acquire only stock with certificates attesting that it is not affected with tuberculosis. It was stated that in buying cattle in the open market there was 50 per cent chance of getting stock presenting a positive reaction to tuberculin. The acquisition of stock reacting to tuberculin is less significant for those who are not interested in the crusade against tuberculosis, for these animals have more chance to resist infection than healthy animals would have when introduced into a contaminated area. A commission chosen from the three granges of the country, meeting in 1927, called attention to the fact that any animal lacking a certificate should be regarded as dangerous. It is therefore of great importance that a reliable system of certification be established. At the eightieth Congress of Rural Economy, held in September, 1928, the question was raised as to the necessity of branding animals presenting a positive reaction to tuberculin, with a view to promoting a general crusade against tuberculosis among the cattle of the Netherlands. It should be stated, in this connection, that the ocular test cannot be relied on absolutely and that the clinical observations have greater value. A positive reaction to tuberculin does not definitely justify the condemnation of an animal. It would be better to organize a good certificate system together with the generalization of the crusade throughout the country. Without such a system, the scattering over the country of animals that react positively to tuberculin constitutes a permanent danger.

The *Algemeen Handelsblad* contains in a recent number an account of the organization as it exists in the Netherlands. In the various provinces there are central organizations made up of the smaller societies of the agriculturists. These larger associations, working with the veterinary service, control the enforcement of the regulations. Any one who can participate in the crusade against bovine tuberculosis is invited to join these organizations. The examination of cattle consists first in a serodiagnostic test by the injection of tuberculin; later, if tubercle bacilli are found in the saliva, the feces, the urine or the milk, the animal must be killed. The owner receives an indemnity of $10, and whatever further sum he can realize from the sale of the carcass. In northern Netherlands, the province pays him a further $10 indemnity. Animals newly acquired

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must be carefully examined before they can be placed in the herd. If the existence of tuberculosis in process of evolution can be established, the contract of sale can be annulled. Cows that react to tuberculin must be branded in a special manner. The owners, naturally, oppose this measure, as the selling value of cows so marked is diminished.

Congress on Mouth Hygiene

As of corresponding dates with the meeting of the International Dental Federation, which is to be held this year in Utrecht, the Netherlandic dental societies have organized a congress on mouth hygiene, for August 6-10. Likewise, a special exhibit will be held for the purpose of promoting better mouth hygiene. It is expected that America and various European countries will send exhibits and a number of films, which will be shown to the general public, during the congress.

Thyroidal Diseases and Their Etiology, as Observed in the Netherlands

In October, 1924, the Struma-Vergadering (goiter assembly) was founded on the occasion of a meeting of the central commission for the distribution of drinking water. The society thus founded, which assumed the task of instituting an inquiry into the existence of goiter and its etiology, was composed of two commissions, one of which was charged with the hygienic and medical aspects of the problem, while the other dealt more particularly with chemical and hydrologic researches. The two commissions have now turned in their reports:

REPORT OF THE COMMISSION ON THE MEDICAL AND HYGIENIC ASPECTS

An analysis of the replies received to the questionnaires sent out by the commission to the hospitals and policlinics of the Netherlands reveals the following conditions:

	Men	Women
Goiter with slight manifestations	25	272
Goiter such as to necessitate surgical intervention	38	213
Goiter with compression, not operated on	18	48
Malignant tumors of the thyroid	5	9
Goiter and intoxication	1	29
Exophthalmic goiter	54	310
Totals	141	881

These figures show conclusively that in all the groups women are more frequently affected than men. Operations had been performed in some of the cases of malignant tumor, goiter and intoxication and exophthalmic goiter. None, however, had been performed in patients under 10; and after the age of 50 the number of interventions had decreased to a great extent. Examination of children in various communes proved that in the communes in which the drinking water contained the most iodine thyroidal hypertrophy was less frequent.

The report of the chemicohydrologic commission dealt chiefly with researches on the iodine content of the water and the soil.

Bureau of Medical Consultations on Alcoholism

The *Wegwijzer* carries an article on the origin and activities of the bureau of medical consultations on alcoholism in Amsterdam. The first meeting of the bureau was held in September, 1909. The movement awakened so much interest that it became necessary to found the society in support of the bureau of antialcoholic consultations. During the course of the years, the task of this bureau has become considerably modified. At first, only out-and-out alcoholic addicts were treated. Now, it is not uncommon for the bureau to lavish its care, aid and counsel on those who have not completely developed the alcohol habit. On Dec. 31, 1921, 3,493 patients had been enrolled; among them were seventy-eight women. The number of indigents had increased greatly. Many of them had to be sent to other bureaus better equipped to provide for their needs. It has been observed that, in general, the chances of recovery are not so good for women as for men. Of these patients, 97 per cent were from Amsterdam.

During the period 1920-1927, approximately 795 meetings were held in the quarters of the medical service, during which 68,857 consultations were given, or an average of eighty-six for each evening. More than half the patients (63.8 per cent) belonged to the class that is constantly menaced with the likelihood of falling into the toils of the law, because of alcohol addiction. If a curve is plotted with the age of the patients as the ordinate and the number of admissions as the abscissa, it will be observed that the peak of the curve lies between the ages 30 and 40 (522 cases), while the group representing the ages 40 to 50 (457 cases) is just a trifle larger than the group representing the ages 20 to 30. Among the patients there were fifty-eight owners of cabarets. In dealing with the various cases, the bureau works in harmony with the courts of justice and sends them its reports. The number of these reports is increasing steadily—in 1927, there were 112 reports concerning ninety-five persons. The patients sent by practicing physicians were chiefly confirmed alcohol addicts. The bureau of consultations keeps in touch with the psychoneurologic clinic of the university and thus establishes a connection that is useful to the patients after they leave the hospital.

BELGIUM

(From Our Regular Correspondent)

April 25, 1929.

Man Power on the Congo

The *Bruxelles médical* contains a comprehensive article by Dr. Daco on the subject of man power on the Congo, which is such a vital problem for the development of numerous colonial enterprises. In the present status of Belgian colonial organization, a large number of natives are destined to become, sooner or later, salaried workers in the service of some industrial enterprise. If a native is forced to submit to the exigencies of a labor contract liberally drawn, there arise for him certain rights with respect to his employer—among others, the right of good health. It is the duty of the physician to preserve his good health. Selecting workers physically fit to perform their duties, fighting disease by all available preventive measures, combating infant mortality—in these ways the physician must carry on; his work constitutes the fundamental basis for everything that may be undertaken for the conservation and the development of man's inheritance on the Belgian Congo. More and more, it appears that the solution of the complex problem of man power lies in the hands of those whose duty it is to study the pathology of the black man to find remedies to meet it. A maximum program setting forth the measures that can reasonably be applied in general and also such as are applicable in emergencies should be agreed on, and all existing organizations should be compelled to accept this program, even though it should effect a temporary reduction in total production. Before new enterprises are authorized to proceed with their developments, they should be required to accept in its entirety a clearly formulated hygienic program. Toward well managed and conservative organizations a liberal attitude is justified with respect to man power, while organizations in which waste and lack of care are habitual may well be treated somewhat parsimoniously and even inflexibly.

But the rôle of the physician must not be confined to the care of workers employed by industrial organizations and brought together in unusual agglomerations. These are merely adaptations of the primitive social organization of the black races, which is the native village with its chief or headman, a reservoir of man power in which various industrial organizations seek recruits.

Medical aid for the natives must therefore be the point of departure of any broad permanent hygienic endeavor designed

to combat depopulation. Government health officers, the physicians of industrial organizations, the Red Cross and missionary societies—all are alike interested in the furtherance of a common program of public health.

It is important that more uniform methods be introduced, from the standpoint of the detection of cases, treatment, and keeping of record cards. Common dispensaries must be created. The work to be accomplished by the medical personnel as a whole, to whatever organization a unit may belong, must be mapped out in each district. The results secured must be centralized. These are some of the things that a central health service in Africa might carry out. A systematic coordination of all efforts would make it possible, without doubt, to exercise medical control over a greater number of individuals and thus come a step nearer the final goal: the preservation and conservation of the native population.

Protection of Animals in Connection with Vivisection

A long antivivisection campaign, which was begun in Belgium, several years ago, has led to the adoption by the lower house of a projected law pertaining to the protection of animals:

Vivisection experiments carried out either for the purpose of research or by way of demonstration of known facts may take place only in university laboratories, or in laboratories associated with universities, and under the control of the responsible director. So far as the conditions of the experiments permit, all animals must be anesthetized. The list of associated laboratories will be approved by royal decree.

The Bad Influence that Certain Motion Pictures Exert on Children

A recent number of the *Revue internationale de l'enfance* has an article by Mr. Rouvroy, medical director of a home for abnormal children, on the dangers for children that lie in motion pictures. The author has had an opportunity to study the effects of current motion pictures on abnormal, subnormal and merely nervous children, and reports his observations. He is aware of the efforts being made to raise the standard of the productions offered to the public, but he holds that, at the present time, the influence of the motion picture is such that "all those who have at heart the physical and moral health of our youth should note the serious objections formulated by many physicians and psychiatrists." The influence of bad motion pictures is worse than that of bad books or bad pictures of the ordinary kind. Censorship and the creation of an age limit serve only as a lure. Even the better films for adults contain scenes of violence and crime, which are highly suggestive and which have an intensive effect on the receptive mind of the child. The "publicity films" serve to make known vice conditions (and forms of vice itself) that they are supposed to combat. Furthermore, the whole method employed by the motion picture to capture the attention of the child produces a high grade of fatigue, as is evidenced by the fact that, after a representation extending over a period of two hours, including ten pauses of two minutes each, a diminution of 20 per cent in the child's physical capacity is effected, or twice as much as is occasioned by a whole day in school; especially is this true as regards weakly and nervous children. The stereotyped exploits of the characters have an extraordinary effect on the subconscious mind of the child. Large numbers of children physically and mentally subnormal (often well above the age limit of police supervision, which is 16) become so saturated, as it were, with these exploits that they reproduce them automatically in times of crisis. Subnormal children, he remarks, are much more numerous than is generally believed.

Death of Professor Dandois

The death of Professor Dandois of the University of Louvain, who was in charge of courses in pathology and clinical surgery, is announced. He was one of the promoters in Belgium of the antiseptic method. He was a member and past president of the Academy of Medicine and one of the most active collaborators of the *Revue médicale* of Louvain.

Congress of Physical Therapy

The fifth International Congress of Physical Therapy will be held at Liége in 1930. Professor Gunsburg of Antwerp is the chairman of the committee on organization. The general secretary is Dr. Dubois-Trépagne, 25, rue Louvrex, Liége, Belgium.

Agitation in Favor of a Medical Examination as a Basis for the Issue of Automobile Drivers' Licenses

In a previous letter, a detailed account was given of the rules proposed by Professor Weekers as the medical basis for the issue of automobile drivers' licenses. The Royal Academy of Medicine has accepted his report and has adopted a resolution on the subject, which is to be forwarded to (1) the Belgian government and to (2) the League of Nations. The suggestion was given to the league that it appoint a commission to draw up, from an international point of view, a set of rules governing the physical requirements on which the issue of automobile drivers' licenses should be based.

BERLIN

(From Our Regular Correspondent)

June 15, 1929.

Meeting of the Deutsche Gesellschaft für Chirurgie

(Concluded from page 51)

ABDOMINAL SURGERY

The third main topic on the program, "Abdominal Surgery," was opened by Professor Clairmont of Zurich, who discussed the subject of "Peritoneal Adhesions." Peritoneal adhesions may be of congenital origin, of inflammatory nature, or they may appear postoperatively. They consist of connective tissue, which possesses a regenerative capacity, and constitute a defense reaction of the abdominal cavity. It has been established that the adhesions contain elastic fibers and blood vessels. The speaker had been unable to find any nerve fibers, although they have been observed by others. With the formation of adhesions, a tendency to break up sets in at once as a result of fermentative action. Adhesions experimentally produced show in an elucidative manner the drawing out, the thinning and, finally, the breaking up of the adhesions; on the other hand, in some cases adhesions that have existed for years, or even decades, with a high degree of vascularization, have been observed. The speaker took up the difficulties of diagnosis, in which he emphasized the great value of roentgenography. He made the following deductions as serving to guide in the search for operative indications: Organic disease must be ruled out. If a preceding intervention (as antero-anastomosis for peptic or jejunal ulcer) effected changes that are responsible for the symptoms, attention must be directed to such changes. On the other hand, operative intervention is indicated in the case of superficial adhesions between omentum and abdominal wall or upper abdominal wall, provided their own involvement is no longer evident. Such adhesions may not produce any symptoms. The stocking-like adhesions are the more dangerous; they cause troublesome symptoms and are an indication for operation. Cases in which several operations for adhesions have already been performed should not be attacked again without imperative indications. For the various organs different types of adhesions must be taken into account, some of which cause pain while others do not. Patients who, in the course of the neurologic examination, are found to be neurotic or neurasthenic or who are mentally ill or subject to hysteria (likewise the insured), should not be subjected to a second laparotomy unless indications can be shown to be imperative. Constitutional factors must be given consideration. Asthenic and lymphatic subjects are not good operative risks. In all cases that cannot be classified among the groups cited, great forbearance should be exercised. The author discussed, in a few words, the attempts

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that have been made to forestall postoperative adhesions: introduction of fibrolytic ferments, Pregl's solution with pepsin, the Payr method (1:1,000 physiologic solution of sodium chloride), and other methods. Occasionally, extirpation of the whole area affected by the adhesions is necessary. Pribram has recommended extirpation of the celiac ganglion.

THE MOBILE CECUM AS A CAUSE OF DISEASE

Professor Schmieden of Frankfort-on-Main dealt with the subject of the mobile cecum as a cause of disease. He brought out that the term "mobile cecum" is an incorrect designation of the condition. In the cases that he had observed it was rather a question of the descent of the cecum into the true pelvis, for which reason the designation "pelvic cecum" would be more appropriate. In order to explain this, and, in general, the relationships of the abdominal cavity, and, more particularly, the relation of the abdominal cavity to the true pelvis, the speaker had plaster casts made of the abdominal cavity, which he used in his demonstrations. One could see clearly the division of the abdominal cavity into three parts—a right portion and a left portion, which are separated from each other by the spinal column, and the triangular pelvic cavity bordered on two sides by the psoas fold. He showed how the cecum has to cross the psoas fold in order to reach the true pelvis, and the changed conditions resulting therefrom, which explain in themselves the severe habitual constipation from which most of the patients suffer. It is apparent from the demonstration that in such cases fixation to the abdominal wall or a similar operation will not eliminate the condition and that only resection of the "pelvic cecum" will suffice.

TREATMENT OF CANCER OF THE STOMACH

Professor Finsterer of Vienna reported his experiences in the treatment of cancer of the stomach. He has performed 535 cancer operations: 340 resections, eight total extirpations, eighty-eight gastro-enterostomies, and ninety-nine exploratory laparotomies or jejunostomies. The results are relatively good in simple gastric resections (211 cases with thirteen deaths, or a mortality of 6.1 per cent). In complicated resections with simultaneous operations on adjacent organs the mortality rose, in a series of 129 cases, to 41 per cent. After an interval of five years, 25 to 50 per cent of 199 patients had had no recurrences; while after ten years, only 14 per cent were still free from recurrences. In cases in which the cancer has grown into the mesocolon, colon resection is not absolutely necessary, since permanent cures can be obtained by the mere resection of the mesocolon (freedom from recurrence after from five to thirteen years, 34.2 per cent). In cancers developing from ulcers, the remote results are worse than in primary cancer, so that this constitutes an argument for resection in ulcus callosum.

TREATMENT OF INGUINAL HERNIA

Professor Schmieden of Frankfort-on-Main demonstrated a new procedure for the treatment of inguinal hernia. He isolates the spermatic cord completely from the hernial sac by bringing it forward with the testis. Then the abdominal wall is completely closed, special attention being given to the places menaced by the Bassini operation, after the testis and spermatic cord have been drawn through a buttonhole in the muscle. The externus aponeurosis is then sutured over them. In twenty cases a good result was secured by this method; as to remote results, nothing can be said as yet.

REMOVAL OF PRESSURE IN TUMORS OF THE POSTERIOR CRANIAL FOSSA

In the realm of brain surgery, the most important paper was that of Professor Guleke of Jena on the removal of pressure in tumors of the posterior cranial fossa. The operations on tumors of this region are characterized by many unfortunate occurrences and high mortality, which is caused chiefly by the disturbance of respiration resulting from the slightest pressure or traction on the medulla oblongata. The mere changing of the position of the head may have such an effect. Such tumors originate in the cerebellum, the pons, the pontile angle or the fourth ventricle. In operations for the relief of pressure, traction on the medulla oblongata is exerted by the protrusion of the cerebellum, which may have a fatal effect. One should begin, therefore, with the opening of the dura on the other side. From this fact, the deduction may be drawn that in medially located tumors, and in large, unilateral acusticus tumors, the attack should be made from both sides; as one is seldom in the position to decide whether the tumor is large or small, it is advisable, in general, to make a bilateral attack, except in the case of tumors that very evidently are located on the surface of the brain. Furthermore, according to Cushing, it is well to resect the atlas, in order to prevent a leverage action. If, in spite of this precaution, respiratory disturbances arise at the operation, the speaker thinks it is not advisable on that account to interrupt the operation, as nothing is gained by such interruption. One should rather endeavor to complete the operation as soon as possible—in some instances, puncture being indicated.

During the general discussion that followed, Schönbauer of Vienna stated that in the Eiselsberg Clinic similar methods to those just described are employed, atlas resection being often resorted to, and occasionally also resection of the epistropheus. He emphasized, too, that in tumors of the cerebrum operations for the relief of pressure on the posterior cranial fossa are more dangerous than operations on the anterior portions of the skull in tumors of the cerebellum. Therefore, if one cannot establish with certainty that the tumor is located in the cerebellum, it is better to perform a trephining operation over the cerebrum. Anschütz of Kiel stated that this had been his experience. In tumors of the cerebellum, he makes the same attack as Guleke. He stressed the value of trephining operations to relieve pressure in all processes that increase brain pressure. In 90 per cent of the cases, if the operation is undertaken in time, one can in this manner preserve the patient's vision. In closing, Guleke mentioned the favorable effects of injection of hypertonic sodium chloride solutions in reducing brain pressure.

ITALY

(From Our Regular Correspondent)

May 15, 1929.

Variations in Mortality Rates

Statistics which have been compiled by the home ministry show the following varying mortality rates in different periods of life: The mortality rate is very high in the first two years of life, after which it descends rapidly until it reaches a minimum at the age of 13 years; from this period the mortality rate rises steadily to a maximum at the age of from 20 to 25 in males, and about 40 in females. There is a noticeable decrease in the mortality rate among persons of both sexes between 50 and 60 years of age. In the senile age the mortality rate is again lower in the female than in the male.

Death of Professor Cirincione

The death at Rome of Prof. Guiseppe Cirincione, director of the Clinica Oculistica at the University of Rome, has been announced. Professor Cirincione was born in 1863, and was graduated from the University of Naples. He devoted himself to histopathologic research, and to the study of ophthalmology under the direction of Professor De Vincentis. In Germany he was a pupil of Sattler and of His. He became privatdocent in his speciality in 1894, and founded a clinic at Tunis for the treatment of ocular diseases. Afterward, when he returned to Italy, he founded the Istituto Oftalmico at Palermo in which he used an apparatus of photomicrography of which he was the inventor. In 1902 he was appointed to the chair

of ophthalmology at the University of Siena; later he became professor of his speciality at the Universities of Genoa and of Palermo, and in 1909 was called to direct the Clinica Oculistica at Rome, which post he held until his death. He transformed this clinic into a center of ophthalmologic research, which was known throughout the world. He was the founder of the *Annali di Oftalmologia e Clinica Oculistica*, and of the Società Italiana di Oftalmologia, to which he donated his fortune. He instituted also an annual international prize of 20,000 lire ($1,052) for a work on ophthalmology, besides a reward of 150 medals to be distributed every year to the best pupils of his native country. He was senator in 1924.

Studies on Food Problems

The committee for the study of food problems recently held a meeting under the chairmanship of Prof. Filippo Bottazzi, physiologist at the University of Naples. Professor Grixoni spoke on food rations in peace and in war for soldiers and aviators. Professor Mazzucconi discussed the existing rations for soldiers and sailors. Professor De Cillis, senator, spoke on vegetable and animal products in Italian colonies, and Professors Ascoli and Silvestri debated on food in prisons, boarding-schools, orphanages and hospitals. Professor Foà, physiologist at the University of Milan, spoke on the topic "Standard and Measurements of the Economy of Foods: Distribution of Foods Among Men and Domestic Animals," and Professor Gorini spoke against wasting and in favor of the best uses of milk among men and domestic animals. The committee praised the precautions which the home minister had recently adopted for the sanitary handling of milk. Finally, the problem of feeding the poor children who are pupils of the grammar schools was discussed, and it was resolved that free rations should be distributed to these children.

Congress of Neurology

The Società Italiana di Neurologia recently held its eighth National Congress at Naples. Professor Fraguito, rector of the University of Naples, was elected president. Professor Lugaro of Turin presented a paper on the reflexes of muscles and muscular synergia, giving these phenomena a personal interpretation in order to make clear some of the complicated phases of the functional changes of the reflexes. Professor Lugaro, in the name of Professor Rossenda, considered the sensory innervation of the face. He proved that lesions of the facial nerves do not interfere with the diverse forms of sensibility. These observations were confirmed by Dr. Vizioli of Naples.

Prof. Donaggio of Naples spoke on his research work on the effect of bulbocapnine on the nervous system. He developed the theory, which he had formerly advocated, regarding the relation of the cortex of the frontal lobes to all morbid phenomena which are termed extrapyramidal phenomena, and which generally are attributed to changes of the basal nuclei. A spirited debate, in which Professors Besta of Milan, Buscaino of Catania, Alberti of Genoa, D'Antona of Siena and some others took part, followed the reading of the paper. The fundamental opinions of Donaggio's theory were unanimously accepted.

Professor De Lisi of Cagliari developed a topic on particular attitudes, which he has defined as "genetic postures," and which are seen in patients with lesions of the extrapyramidal system. Professor Salmon of Florence spoke on the physiology of sleep and the relationship between this phenomenon and the lesions which originate in the brain and spinal cord and in the endocrine glands. Papers were read by many others who attended the congress.

Professor D'Antona described some cases of cerebral tumors with neoplastic involvement of the meninges which he had observed, and in which histologic studies had been made. He made some facts clear with regard to the histogenesis of gliomatous tumors which explained the possible relationship between this type of tumor and those tumors of the peripheral nerves in multiple neurofibromatosis. Professor Buscaino discussed, with the aid of lantern slides, the results of his experimental work with a view to explaining the origin of certain racemose areas of disintegration, so-called zolle di disentegrazione a grappolo. Some years ago, the speaker described this histologic condition, which has been and still is the topic of spirited debates. The speaker stated his reasons for maintaining that these racemose areas of disintegration are the manifestations of special pathologic processes.

Dr. Altschul described a new method of gold impregnation by which staining of the fibers and gray matter of the nervous system is obtained. Professor Bolsi of Turin described some modifications of his methods of staining microglia and oligodendroglia and explained how these elements react in experimental intoxication, the reactions appearing in a type which is prevalently regressive. A discussion was then held, after which Professor Lugaro made evident the advantages of the method which Bolsi has introduced, and recommended wider application and study of the method.

Professor De Giacomo and Dr. Fiamberti spoke on the reactions of cerebrospinal fluid. The former spoke on the Boltz test, and the latter on a new reaction, of which he and Professor Rizzatti are the originators.

At the close of the meeting the election of the board of directors of the Società di Neurologia was held, and Dr. Fragnito was elected president.

Padua was chosen as the place for the meeting of the next congress.

A Meeting on Hydrotherapy

Under the chairmanship of Dr. Rebucci, a meeting has been held in Rome for the study of the principal problems relating to hydrotherapy and thermotherapy. Professor Granelli spoke on the measures necessary to increase the use of mineral water, and also discussed the sanitary and bacteriologic regulations which are necessary in handling glassware and in the distribution of natural mineral waters. The speaker proposed that the government should follow the lead of Hungary and suppress the distribution of synthetic mineral water. Professor Bussi spoke on: "The Teaching of Hydrology." Papers were also read by others at the meeting.

Sanitary Service for Young People

With the circular letter which the home minister has recently addressed to the magistrates of the kingdom, attention has been called to the general need of organizing a regular sanitary service for young people. Every educational institution for young people should have a physician responsible for sanitary, hygienic and prophylactic services, and also another physician to substitute for him in case of absence. The physician should be required to notify the health department of the province of all cases of infectious diseases, and to report whether he is taking proper measures of prophylaxis. The prefecture should have a list of the educational institutes, on which appear the reports that the physicians on duty have made.

A Case of Leishmaniosis in Genoa

Professor Gismondi reported to the Academia Medica at Genoa a case of leishmaniosis in a child, aged 7 years, who was treated in one of the hospitals of that city. The disease lasted nine months; the patient recovered under treatment with antimony preparations. This is the first case to be observed in Genoa. The speaker stated that from now on, leishmaniosis should be suspected in a child with fever, anemia and swollen spleen, and that the parasite should be looked for. The exact diagnosis of this disease is of great importance, as it is always fatal if not recognized and treated.

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Marriages

MARYLAND E. BURNS, Glen Cove, N. J., to Supreme Court Justice Edward J. Byrne of Garden City, N. Y., June 19.

GEOFFREY WILLIAMS, Mount Vernon, Ohio, to Miss Catherine W. Poey, at Indianapolis, May 30.

RUSSELL ALLEN FLACK, Lafayette, Ind., to Miss Frances Burnydat Ellis of Westmount, Que., June 15.

ARTHUR GREGORY HOLLAND, Boston, to Miss Florence Marguerite Olson of Maywood, Ill., June 8.

EDMUND EUGENE ROBINSON, Concord, N. C., to Miss Mildred Eaves, June 15.

HUGH BEATON, Dallas, Texas, to Miss Johnie Day of Fort Worth, June 15.

WALTER O. ALLEN, Hendersonville, N. C., to Miss Lucille Kirby, June 11.

IRVING I. FINE, Brooklyn, to Miss Rose Hoodin of Cincinnati, June 16.

Deaths

Richard Warren Corwin ✠ Pueblo, Colo; University of Michigan Medical School, Ann Arbor, 1878; member of the Joint Committee on Health Problems and Education of the American Medical Association since it was organized in 1911; member of the Western Surgical Association; past president of the Colorado State Medical Society and the American Association of Railway Surgeons; formerly professor of surgery at the University of Colorado School of Medicine; for many years member of the school board, board of health and the board of the State Agricultural College; aged 77; chief surgeon of the Minnequa Hospital of the Colorado Fuel and Iron Company; where he died, June 19, of pulmonary embolism due to carcinoma of the prostate and lungs.

Hilda A. Simon ✠ Seattle; College of Physicians and Surgeons of San Francisco, 1905; formerly chairman of the child welfare section of the city health department; aged 57; died, June 7, at the Columbus Hospital, of intestinal obstruction following an operation for cholecystitis and uremia.

Myron S. Clark, Warren, Ohio; University of Michigan Medical School, Ann Arbor, 1865; Civil War veteran; formerly president of the board of health and board of education of Youngstown; aged 88; died, June 14, as the result of cerebral hemorrhage which occurred about four weeks before.

Aloysius Paul O'Brien ✠ San Francisco; University of California Medical School, 1885; veteran of the Spanish-American War; formerly member of the board of health of San Francisco; served as physician to the police department for several years; aged 62; died, June 13.

Samuel S. Kehr, Sterling, Ill.; Hahnemann Medical College and Hospital, Chicago, 1880; member of the Illinois State Medical Society; on the staff of the Public Hospital of the City of Sterling; aged 76; died suddenly, June 13, of heart disease, while attending a patient.

Christian John Brobeck ✠ Tacoma, Wash.; University of Michigan Medical School, Ann Arbor, 1907; served during the World War; formerly on the staff of the Tacoma General Hospital; aged 45; died, May 14, at his summer home on Day Island, of heart disease.

George O. Welch, Fergus Falls, Minn.; Boston University School of Medicine, 1887; member of the American Psychiatric Association; for more than thirty-five years superintendent of the State Hospital; aged 69; died in May, of thrombosis of the coronary artery.

George Edward Borden ✠ Fall River, Mass.; Long Island College Hospital, Brooklyn, 1905; secretary of the Bristol South District Medical Society; on the staff of the Fall River General Hospital; aged 45; died suddenly, June 8, of heart disease.

Owen C. Evans ✠ Anaconda, Mont.; Chicago Homeopathic Medical College, 1893; formerly mayor and health officer of Anaconda; aged 59; on the staff of St. Ann's Hospital, where he died in May, of chronic myocarditis.

William Franklin Gardner ✠ Smithland, Ky.; Kentucky University Medical Department, Louisville, 1903; proprietor of a hospital bearing his name; formerly county coroner; aged 51; died, June 9, of nephritis.

David Ellison Connor, Taylors, S. C.; Medical College of the State of South Carolina, Charleston, 1897; member of the South Carolina Medical Association; aged 59; died, April 6, of carcinoma of the mouth.

William Mitchell Barnes, Sioux Falls, S. D.; Jefferson Medical College of Philadelphia, 1898; formerly health officer of Sioux Falls; aged 66; died, March 29, at Newark, N. J., of cerebral hemorrhage.

Thomas Edward Callan, Gadsden, Ala.; Medical College of Alabama, Mobile, 1894; member of the Medical Association of the State of Alabama; aged 60; died, June 8, of cerebral hemorrhage.

Clarence McClellan ✠ Chicago; College of Physicians and Surgeons, Chicago, 1901; formerly on the staff of the Swedish Covenant Hospital; aged 57; died, June 23, of coronary thrombosis.

John Oscar Woods, Elizabethton, Tenn.; Tennessee Medical College, Knoxville, 1907; member of the Tennessee State Medical Association; aged 48; died, June 8, of appendicitis and peritonitis.

William Morton Schultz, Georgetown, Texas; Louisville (Ky.) Medical College, 1906; member of the State Medical Association of Texas; aged 51; was drowned, June 19, while fishing.

Edwin W. Reagan ✠ Canton, Ill.; Rush Medical College, Chicago, 1885; formerly on the staff of the Graham Hospital; aged 71; died in June, at Fort Sheridan, of cerebral hemorrhage.

Joseph Napoleon Gordon Bernard, Waterville, Maine; Medical School of Maine, Portland, 1903; aged 57; died, May 20, of cerebral hemorrhage and arteriosclerosis.

Alfred Thomas Gabriels, Brooklyn; Albany Medical College, 1907; member of the Medical Society of the State of New York; aged 47; died, June 14, of angina pectoris.

Frank C. Drake ✠ Oneida, N. Y.; Syracuse University College of Medicine, 1886; aged 68; died in June, at the Broad Street Hospital, of acute miliary tuberculosis.

Julius Hilgard Tyndale, Lincoln, Neb.; St. Louis Medical College, 1868; veteran of the Civil and Franco-Prussian wars; aged 85; died, June 7, of chronic nephritis.

Edmond A. Balyeat, Kalamazoo, Mich.; Chicago Homeopathic Medical College, 1882; aged 70; died, June 8, at the New Borgess Hospital, of heart disease.

Thomas Alphonsus Spears ✠ Atlanta, Ga.; Emory University School of Medicine, Atlanta, 1924; aged 31; was shot and killed by a policeman, June 15.

Samuel W. Spitler ✠ Wellington, Kan.; Medical College of Ohio, Cincinnati, 1875; aged 80; died, June 7, in a hospital at Topeka, of cerebral hemorrhage.

William Husband Fetter ✠ Scottdale, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1890; aged 68; died, June 1, of coronary thrombosis.

Nellie Victoria Chappell, Buffalo; University of Buffalo School of Medicine, 1892; aged 69; died, April 28, of adenocarcinoma of the ovary.

Walter Elmer Bourque, Chicago; Chicago College of Medicine and Surgery, 1915; aged 42; died, June 20, of epistaxis and chronic nephritis.

Joseph Frederick Finigan, Oshawa, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1905; aged 44; died, March 21.

Jennie H. Anderson ✠ Los Angeles; University of Colorado School of Medicine, Denver, 1911; aged 42; died in March, of carcinomatosis.

Charles Wilbur Corey, Hartford City, Ind.; Fort Wayne College of Medicine, 1887; aged 64; died, May 30, of carcinoma of the throat.

Demetrio Camodeca, Chicago; University of Naples, Italy, 1881; aged 70; died, June 18, of arteriosclerosis and chronic nephritis.

Montgomery Beverly Berry ✠ Detroit; Barnes Medical College, St. Louis, 1898; aged 53; died, June 3, of cirrhosis of the liver.

William Archibald Kyle, Jarvis, Ont., Canada; Queen's University Faculty of Medicine, Kingston, 1885; aged 67; died in March.

John B. Housley, Kodak, Tenn.; Tennessee Medical College, Knoxville, 1900; aged 55; died, June 18, of heart disease.

George W. Dingus, Coeburn, Va. (licensed, Virginia, years of practice); aged 75; died, May 22, of cerebral hemorrhage.

Edward Meek, Port Rowan, Ont., Canada; University of Toronto Faculty of Medicine, 1889; aged 62; died in April.

Bureau of Investigation

MORE MISBRANDED NOSTRUMS

Abstracts of Notices of Judgment Issued by the Food, Drug and Insecticide Administration of the United States Department of Agriculture

Rheu-Salic Tablets.—The Waterbury Chemical Company, New York City, shipped in July, 1926, a quantity of "Rheu-Salic Tablets" that the federal authorities declared were adulterated, in that their strength and purity fell below the professed standard under which they were sold. According to the label, each Rheu-Salic Tablet was said to contain 2 grains of acetphenetidin and 3 grains of magnesium salicylate. In fact, they contained only about 1½ grains of acetphenetidin and about the same amount of magnesium salicylate. In June, 1928, a plea of guilty was entered on behalf of the company and a fine imposed.—[*Notice of Judgment 15911; Issued May, 1929.*]

Dynell Water.—The Dynell Spring Water Company of Illinois shipped in January, 1928, fifteen five-gallon bottles and 420 one-gallon bottles of spring water, which the government claimed was misbranded. According to the labels, the prepara-

Good News for Overweights

THE NEWEST AND SUREST WAY TO GROW THIN BY A NEW PROCESS

Why DYNELL WATER Takes Off Excess Fat

THE result of a year of careful investigation just out and now revealed for the first time.

The organic salts in such profusion and in such perfect solution in Dynell water, contrary to the tendency of most waters, are a natural stimulus to the metabolism of the system.

Their chemical re-actions in the protoplasm serve to exchange new and healthy materials for the sluggish and fat loaded surfaces. Their cathartic action in the blood is a continuous influence to oxidize surplus fat and eliminate it through natural channels.

To what extent it may influence those glandular secretions the deficiency of which is held to be largely responsible for obesity is conjecture, but a host of over-fat people have reduced to normal through no other means than by drinking Dynell Spring Water, hence experience is worth a lot more than theory when it comes to some of the mysteries of the human body. Its high content of magnesium sulphate is alone a fat reducer, second to none.

Its Sodium sulphate is a regulator of the body's water supply and is the standard treatment for dropsical affections. Its effect in the liver is specific. Its iron oxide is invaluable in fat reduction and all its other elements are highly active in combination to bring about a healthier condition of the tissues of the body.

Of one thing you may be sure, there is no danger in this form of reduction, no heart palpitation, no nervous re-actions, no skin eruptions. The reduction of fat is general throughout the system, it is natural and healthy reduction and is just gradual enough to enable the body to gain in health and strength as the excess fat gradually recedes.

Read the genuine letters from Chicago people and note the great benefit they have derived from this simple and pleasant way to grow thin —by simply drinking this pure, sparkling— tasteless—odorless—healthful Dynell Water, which is said to come by an underground system from far away Canada.

tion was recommended in the treatment of chronic constipation, ulcerated stomach, torpid liver, high blood pressure, rheumatism, gastritis, neuritis, gout, gallstones, Bright's disease, diabetes, and various other conditions. The therapeutic and curative claims made for this nostrum were declared false and fraudulent, "since the article contained no ingredient, or combination of ingredients, capable of producing the effects claimed." In April, 1928, no claimant having appeared for the property, judgment of condemnation and forfeiture was entered, and the court ordered that the product be destroyed.—[*Notice of Judgment 15916; Issued May, 1929.*]

Vibunol Johnson (Johnson's Female Regulator).—In December, 1927, the United States Attorney for the District of Porto Rico, acting on a report from the Secretary of Agriculture, filed in the District Court of the United States, for that district, a libel calling for the seizure and condemnation of 720 bottles of "Vibunol Johnson," alleging that the article was misbranded. When analyzed, the preparation was found to be a water-alcohol solution of drug extracts, together with sugar. It contained 5.3 per cent of alcohol, although the label declared the presence of 15 per cent of alcohol. The preparation, which, according to the label, was "formerly known as Johnson's Female Regulator," was also declared misbranded because of false and fraudulent therapeutic claims. In January, 1928, E. B. Goico claimed the property and, having admitted the allegations, judgment of condemnation and forfeiture was entered and the court ordered that the product be released to the claimant on payment of the costs and the execution of a bond, conditioned in part that the preparation should not be sold without first being properly relabeled.—[*Notice of Judgment 15917; Issued May, 1929.*]

Migratone Anti-Rheumatic Tablets.—The Waterbury Chemical Company of New York shipped in July, 1926, a quantity of "Migratone Anti-Rheumatic Tablets" that the government declared were misbranded and adulterated. They were misbranded in that, while the label declared each tablet contained 3 grains of salicylic acid, they actually contained less than $\frac{8}{10}$ of a grain of this substance. They were held adulterated for the reason that their strength fell below the professed standard of strength given on the label. In June, 1928, a plea of guilty was entered and a fine imposed.—[*Notice of Judgment 15911; Issued May, 1929.*]

Methalgine Comp. Capsules.—The Waterbury Chemical Company of New York City shipped in July, 1926, a quantity of "Methalgine Comp. Capsules," which government officials declared were misbranded and adulterated. According to the label, each Methalgine Comp. Capsule was said to contain $\frac{1}{20}$ of a grain of morphine sulphate, 1 grain of acetanilide, 1 grain of acetphenetidin, and 2 grains of sodium salicylate. As a matter of fact, each capsule was found to contain only about 0.02 grain of morphine sulphate, 0.12 grain of acetanilide, 0.41 grain of acetphenetidin, and 0.88 grain of sodium salicylate. In June, 1928, a plea of guilty was entered and a fine imposed. —[*Notice of Judgment 15911; Issued May, 1929.*]

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Correspondence

RESUSCITATION OF THE ASPHYXIATED NEW-BORN

To the Editor:—While it was not my pleasure and opportunity to discuss the paper of Dr. Albert Mathieu and Dr. Albert Holman on "Resuscitation of the Asphyxiated New-Born" (THE JOURNAL, June 8, p. 1917), reference to my recently published work on resuscitation forces me to do so through your correspondence columns.

It is a pleasure to read the introductory paragraph stressing the danger of stimulation by peripheral irritants and mechanical pressure. In my experience, however, the danger of such methods seems to have become generally understood, and we are faced with the new danger of inaction in the place of excessive manipulation.

The opportunity afforded by direct vision of the baby's larynx confirms the authors' impressions as to the collapsible character of the larynx in complete asphyxia but does not apply to the same degree when laryngeal reflexes are present. It is a pleasure to agree to the need of intratracheal insufflation under the circumstances, as possessing definite mechanical advantages over the use of the mask or oral insufflation. My present work began on the basis of the utmost simplicity and economy of apparatus (Treatment of Asphyxia in the New-Born, THE JOURNAL, Sept. 15, 1928, p. 788): a test tube for a manometer, the oxygen found in the operating room, and so on. It soon became apparent, however, that when a life was at stake it was not only an advantage but an obligation to meet the physiologic and mechanical needs of the situation in spite of additional technic and cost. Subsequent events in the form of successful resuscitations fully justify this judgment.

The surgeon's expired air contains a relatively large percentage of carbon dioxide, but the percentage of oxygen present is entirely inadequate for the oxidation of the baby's circulation. The surgeon, himself, cannot live on his own expired air. How can an asphyxiated baby be expected to do so?

I agree entirely with the statement that "positive pressure is here of value" but I feel strongly that if positive pressure is used at all it should be mechanically measureable. Warm

air as a support of the baby's body heat is useless, as physicians interested in anesthesia are now generally agreed.

The use of the same catheter for suction and for insufflation implies double intubation, with the trauma that is liable by indirect methods.

I regard milking the trachea to a degree sufficient to squeeze it free from secretions as a traumatic manipulation, and the removal of mucus and débris from the mouth by the use of one's finger as being as unscientific and unpractical in the baby as in the adult. Direct exposure of the larynx obviates the embarrassment of "apparent obstruction of the airway."

I am forced to assume that the authors of this article are not familiar with the instrument which I employ for the exposure of the baby's larynx. Had they been so, they could not have referred to it as an illuminated tongue depressor. As a consequence, the conclusion that my method is unpractical and unnecessary loses its force.

Employing direct laryngoscopy, the operator may function without an assistant. It seems highly improbable that the average man can identify the infant glottis by palpation with a finger tip without traumatizing and displacing it. The use of a fiber catheter to be intubated by palpation is a manipulation that may be expected to find little favor with operators familiar with laryngeal structures. To add to these manipulations the suggestion that one orients the position of the catheter by putting his finger in the infant esophagus is certain to be followed by postoperative complications.

I am curious to know how it was possible for the authors to extract pieces of mucus 2 or 3 cm. in diameter through the glottis, which, in the average infant, will just admit a 4 mm. tube. The only reasonable implication would be that the catheter was in the esophagus at the time, and not in the trachea, as is usually the case, when intubation cannot be checked up by direct vision. It is a relief to find that gross danger to the baby is recognized, at least, in the matter of intratracheal pressure; but the method suggested by the authors of measuring this pressure is as unscientific as are the references in "Mother India" gracing the initial paragraph in this article. In fact, one is led to divide resuscitation methods in the newborn into three fairly distinct classifications:

1. Peripheral irritants now generally discarded.

2. Indirect methods of intratracheal insufflation by the blind introduction of catheters, simulating closely the old-fashioned O'Dwyer methods.

3. The method now available, consisting of a nontraumatic exposure of the field, suction under direct vision, intratracheal intubation, and insufflation of a scientifically measured mixture of oxygen and carbon dioxide.

As a plea for intratracheal insufflation in place of the use of a mask, the article is to be commended. As a reiteration of an out-of-date method of catheter insufflation by indirect intubation, it merely repeats the inaccuracies of this method.

PALUEL J. FLAGG, M.D., New York.

SCALP CIRCULATION AS INDEX OF FETAL HEART RATE

To the Editor:—My attention has been called to a passage in the textbook "Case Histories in Obstetrics" by DeNormandie in which the author, in a discussion of the technic of normal pregnancy, and in the conduct of case 13, points out the utilization of the scalp circulation in the visible fetal head as an index of the condition of the fetal heart. This comment was unknown to me at the time I sent in my clinical note, which appeared in THE JOURNAL, June 29. Nevertheless, I consider this sign of sufficient value to warrant the reemphasis it may have received.

JOSEPH L. BAER, M.D., Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

POTENCY AFTER PROSTATECTOMY

To the Editor:—What is the choice of route for prostatectomy with reference to preserving the structure and function of the vas and vesicles? Is a virile man rendered impotent by either operation (perineal or suprapubic)? In a given case erections that were fairly frequent previous to a perineal resection of a lobe of the prostate are impossible two years later. Please answer in THE JOURNAL. Omit name.

M.D., Pennsylvania.

ANSWER.—The route of approach in prostatectomy has little bearing on the structure and function of the seminal vesicles. Occasionally the vas deferens is injured or torn across so that it becomes occluded. This does not, however, affect the potency of the patient; on the other hand, when the vas is sealed, as a result of this procedure, the patient is rendered sterile.

As a rule, a virile man is not rendered impotent by either type of operation. The loss of erections occasionally takes place following prostatectomy. This occurs with both the suprapubic and the perineal routes.

It might be well to examine the patient to see whether he has some general disease that might account for his impotence, such as tabes. Or it might be well to examine him locally for the presence of a persistent infection in the vesicles. This might account for his loss of function, and, if present, of course, he needs massage.

MARGARINE AND BUTTER

To the Editor:—During the recent session of the Utah legislature, a bill was passed taxing oleomargarine, which of necessity will now increase the price of this product. To the working man with a medium sized or large family, the difference in the price of butter and of oleomargarine is considerable. The oleomargarine I refer to especially is the nut type; e. g., nucoa. Will you please explain the difference in nutritional value and assimilability of butter and oleomargarine? What difference in the effect of these would one notice on the growing child?

J. C. ROBISON, M.D., Salt Lake City.

ANSWER.—The questions raised involve a theme that has been vigorously debated for many years; but the controversy has become decidedly less acrimonious in recent times. In the earlier period the opponents of the sale and use of margarines asserted that these so-called artificial foods were impure and unwholesome; yet the investigations of unbiased observers have indicated that rigorous supervision and control are exercised at every step, so that there is no justification for impugning the hygienic purity of standard brands of margarine any more than that of butter, with which it has been brought into spirited competition. The charge has also been made that, regardless of the purity of its ingredients and the care in its manufacture, margarine is injurious to the public health. This has led in some states to adverse legislation which aims directly or indirectly, by means of special taxes and other discriminating restrictions, to reduce the consumption of the product. Wisconsin enacted a law in 1925 prohibiting the use of milk and milk products in the manufacture of margarine. This law, we are informed, was recently declared unconstitutional.

Margarine is made chiefly of beef fat, pork fat, vegetable oil, salt, milk and butter. The nut margarines are made of vegetable fats, salt and milk. No one objects to the culinary use of any of these ingredients; but the opponents of margarines insist that when such mixtures replace butter in the diet they deprive those who consume them of the vitamin A that is a characteristic wholesome ingredient of milk fat, in contrast with vegetable oils, and that is an indispensable dietary requisite. Vitamin A is particularly valuable during the period of growth.

The debate between the industries involved has finally centered about the vitamin problem. There can no longer be any question about the ready digestibility and absorption of the commercial margarines. In this respect they rank with butter. Hence they are of undisputed nutritive value, yielding about 3,500 calories a pound. The vitamin A content of margarines varies with the ingredients used. It is probably as a rule considerably lower than that of the best butter; though butter varies with the seasons, pasturage of the cows and storage. If the two foods were selected solely with reference to richness in vitamin A, the choice would be in favor of good butter. However, in all fairness one must recall that butter is by no means the only source of vitamin A in the diet. Eggs, glandu-

lar tissues, the green vegetables and many fruits, as well as milk, offer abundant opportunity for securing vitamin A. A well balanced diet does not depend on either butter or margarine as its sole supply of vitamin A. Consequently the answer to the question of inclusion of margarine in the diet of children hinges primarily on the insurance of variety in the daily regimen. How the desired effects are to be secured depends in part on tastes, economic considerations and expediency. The desirable "quart of milk a day for every child" includes approximately 1½ ounces of milk fat, i. e., butter fat in unmodified form. Neither margarine nor butter can compete with whole milk as sources of dietary essentials during growth; yet both fatty foods are excellent food fuels.

Another feature of the margarine controversy must not be overlooked. Regardless of the wholesomeness of the product, it should never be allowed to masquerade under any label that might tend to identify it with what it is not; namely, butter. Misbranding is an intolerable offense. Even the expression "butter-substitute" has objectionable implications.

A pamphlet on "The Composition and Food Value of Margarine", by J. S. Abbott, secretary, is published and distributed without charge by the Institute of Margarine Manufacturers, 1049 Munsey Building, Washington, D. C.

TECHNIC OF RUBIN TEST FOR STERILITY

To the Editor:—1. Is it safe to carry out Rubin's test in a patient whose cervical smears are positive for gonococci but who has no indication of pelvic infection other than sterility? 2. How is escape through the cervix of the injected gas prevented? 3. May compressed air be used in place of oxygen or nitrogen? Please omit name.

M.D., Mexico.

ANSWER.—1. It is emphatically not safe to perform the Rubin test in the presence of gonococci as shown by smear diagnosis.

2. The escape of gas through the cervix may be prevented by the use of one of the self-retaining type of instruments, as that devised by Stein and Arens and recently described in the *American Journal of Obstetrics and Gynecology*.

3. For safety, the gas must be introduced with the minimum of pressure and at a slow rate; therefore, compressed air is wholly unsuited for the performance of the test. Carbon dioxide under needle-valve control is most commonly used. Oxygen or air may be used.

The physician making this inquiry is strictly urged to study carefully the articles on tubopatency by Rubin, Meaker and others before performing this test on the living subject.

PRODUCTION OF ANESTHESIA OF RECTAL MUCOSA

To the Editor:—I would be pleased to have some information on local anesthetics in the treatment of hemorrhoids. What drug is safest and most advantageously used on only the inner surface of the anorectal cavities and how is it best prepared to assist in the passing of the speculum when the inner surface is very sensitive and to avoid the trouble of injecting hypodermically, for a matter of convenience? Please omit name.

M.D., Oklahoma.

ANSWER.—The most frequent cause for spasm of the sphincter muscle, which prevents an easy introduction of an ordinary conical speculum, is a fissure. If, on this fissure, a little powdered orthoform is dusted, it is found possible subsequently to examine the patient by speculum without much pain. As a general rule it is not good to use cocaine on the surface of the rectal mucosa; it is preferable to inject procaine hydrochloride, as any standard textbook, such as the Nelson Loose-Leaf, the Oxford System or Prior's System of Surgery, shows with illustrations.

CAUSE OF DELIRIUM TREMENS

To the Editor:—A middle-aged man who had been a heavy drinker of alcoholic liquors sustained a fracture of both bones of the leg, with displacement of the fragments. Under nitrous oxide and ether anesthesia, the fragments were reduced and a cast was applied. He took the anesthetic poorly. Several days later he developed delirium tremens. In a few more days, pulmonary edema set in and he died. What would be the most likely cause for the delirium tremens? Would it be the injury with its shock and tissue disintegration, the anesthetic itself, or the struggling in taking the anesthetic? Is the complete withdrawal of alcohol of itself likely to be a cause? Would you suggest spinal anesthesia in such cases, provided there is no other contraindication? Please omit name.

M.D., Pennsylvania.

ANSWER.—Delirium tremens hardly ever occurs in a steady drinker; it nearly always occurs in a person who becomes intoxicated periodically and who, during this period of heavy drinking, does not take any food. In other words, there is a combination of alcoholic poisoning and of starvation acidosis that seems to be necessary to produce delirium tremens. The anesthetic, of course, would be one more factor in provoking the delirium tremens. Spinal or local anesthesia in such a case would be preferable to general anesthesia.

TREATMENT OF STONE IN THE KIDNEY

To the Editor:—I have a case of bilateral calculi in a man, aged 60; there is a profuse discharge of pus constantly and a light fever every evening. He has gained weight in the last month but has a constant pain in the kidney region. The diagnosis was made by a roentgenogram which shows that the stones are in the pelvis of each kidney just above the mouth of the ureter; there has been no hydronephrosis and no blood in the urine. The patient looks well, feels the same and has a fine appetite. I have prescribed sodium bicarbonate and sodium citrate, 30 grains each, three times a day. What can I do for him further? Do you know of any solvent, either medical or electrical, that can be used? These stones are so located that operation is out of the question; hence I am treating daily for a general intoxication or a hydronephrosis. Would you suggest the removal of one stone, which would probably make a fistula, or letting him alone? He has been hospitalized.

P. A. BOYKIN, M.D., Jeanerette, La.

ANSWER.—There is no compound available that either by oral or by local administration would furnish a reasonable chance for dissolving renal concretions. There are quoted in the literature a few isolated instances in which it is asserted that repeated pelvic lavage (for instance, with diluted hydrochloric acid in case of phosphates) furnished relief. But the overwhelming majority of authors report only failures of such attempts.

The location of a renal stone never furnishes a contraindication against operative removal. The operative indications in instances of bilateral stone are formulated according to the following considerations: In general, it may be stated that the possible operative contraindications must be more minutely observed than in cases of unilateral lithiasis; the evidence must be carefully weighed whether the expected result is proportionate to the operative risk. Many authors caution against operative intervention in dealing with large coral stones that do not produce severe subjective symptoms. Low bilateral renal function or general debility forms an absolute contraindication. A strict operative indication prevails in case unilateral ureteral blockade or total anuria occurs. Pronounced hematuria, pelvic retention of blood or pus or both, and constant suffering indicate operation. Most of the operators advise against simultaneous bilateral operation and demand a reasonable interval between the first and the second lithotomy.

The decision as to which kidney should first be operated on depends on a number of considerations: If several small stones are diagnosed in one kidney, this organ should be operated on first in order to avoid any ureteral blockade by movement of these concretions. With this exception the opinion prevails that the more extensively injured kidney should be the first one to be operated on. Under all conditions the kidney that develops obstructive symptoms must be the first one to be relieved by operation. Conservatism is always the guiding principle in formulating the operative indications in cases of bilateral lithiasis. Primary nephrectomy is indicated only in case it is evident that functionally one kidney is totally destroyed. If its mate is not functionally intact only lithotomy should be performed on the more deteriorated kidney, thus furnishing the possibility of recouping part of its function. Failure in accomplishing this may form the indication for a secondary removal of this organ. Poor function on either side contraindicates operation. In severe infection, accompanying nephrolithiasis prolonged renal drainage after removal of the concretion is suggested. So-called dormant bilateral stones, if not producing pronounced symptoms, may be left alone. Such patients are known to have enjoyed good health for many years. In case of pronounced pyuria and occasional distress on account of this condition, pelvic lavage may be employed.

In deciding on the details of an intended operation it is the general opinion that if possible general anesthesia should be avoided. The satisfactory development of paravertebral and spinal anesthesia permits of performing renal operations without any distress to the patient and at the same time produces proper muscular relaxation guaranteeing an orderly procedure. The renal operation proper will be confined to the least injurious intervention; that is, pyelotomy.

In the patient under discussion, the pyuria, fever and pain indicate operation provided the general condition of the patient is proved by the results of biochemistry to furnish a good prognosis. In case retention of waste products in the blood is found, the general routine antinephritic regimen should be inaugurated and maintained until decided improvement is

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observed. The daily fluid intake should be reduced to about 1,500 cc. and a protein-poor diet ordered. Forced alkalization of the patient may produce phosphatic precipitations on the existing concretions.

TREATMENT OF GONORRHEA IN GIRLS

To the Editor:—Please give the best method of treating, with the object of eradicating, gonorrhea in a girl, aged 9 years. The infection is some months old; it was not discovered until it was well into the chronic stage. Please do not publish name.

M.D., Michigan.

ANSWER.—Silver nitrate applied to the urethra in the strength of 0.5 per cent and gradually increased up to 1 or 2 per cent is efficacious in eradicating urethral gonorrhea. If this burns too much, one of the silver salts, such as strong silver protein, may be used. Particular care should be exercised in not overlooking infection in Skene's glands, as this is often a factor in causing persisting urethral infection.

For the genital tract, it might be well to have the mother inject into the vagina any of the silver salts in proper strength before the little girl goes to bed and plug the vagina with cotton. In addition to the silver salt, it might be well to irrigate the vagina twice a day with a warm solution of potassium permanganate in the strength of 1:5,000.

Infection of Bartholin's gland is not common in children, and still this should not be overlooked as a possible source of infection that keeps up the discharge.

CARE OF UTERUS AFTER LABOR

To the Editor:—I have recently confined two mothers with a marked atrophy of the uterine muscles. In both, the contractions were weak and after the birth of the baby I gave them one ampule of solution of pituitary and the uterus contracted down to a mass the size of a fist. What tonic would you suggest in these cases to bring back the tone to the uterus?

R. L. CORBIN, M.D., Norway, Iowa.

ANSWER.—Since both women presumably had full-term pregnancies and spontaneous labors, they most likely do not have "marked" atrophy of the uterine musculature. Weak contractions during labor do not necessarily imply defective uterine musculature, and the contraction that followed the administration of solution of pituitary in these cases was a normal response. No treatment or tonic is necessary for the condition ascribed to the uterus in these women.

POSSIBILITY OF RETENTION OF PYELOGRAPHIC MEDIUM IN THE KIDNEY

To the Editor:—A man, aged 36, had symptoms of pyelitis of the right kidney, with a history of passing stones three or four times. A roentgenogram of the kidney was negative for stones. A pyelogram was later made, some bromide solution being used. Four months after the pyelogram, another roentgenogram showed a large shadow, apparently filling accurately the pelvis of the kidney. One urologist diagnosed large jackstone of the kidney. Another suggested the possibility that the bromide solution introduced for pyelography might still be in the kidney and give the shadow. Is it possible that the solution was retained that long in a kidney that was functioning to some extent?

C. S. NEER, M.D., Vinita, Okla.

ANSWER.—There are authentic reports in the pertinent literature that part of contrast fluids injected into the renal pelvis have remained there for a long time, up to some years. But these reports concern only silver compounds. The available literature does not contain a description of such an occurrence following the employment of halogens. A shadow exactly outlining the renal pelvis, however, suggests such a possibility. A renal functional test may be helpful in clearing up the situation. Stones of such a size as indicated as a rule interfere materially with the eliminatory power of the kidney concerned.

DANGERS FROM HIGH SULPHUR CRUDE OILS

To the Editor:—Frequently I have patients from the oil fields who have eye and ear troubles that they attribute to gas poisoning. Some of them ask for a large compensation for permanent injuries. Most of these patients have other causes for that which they call injuries. I have never seen any eye trouble, except conjunctivitis, that I attributed to gas. I do not know how to tell deafness or other complaints that may have been produced by gas. I have never seen any published reports of injuries of this nature. Will you please give me information concerning the effects of gas on eyes and ears? Can you furnish or refer me to literature on this subject?

W. T. SALMON, M.D., Duncan, Okla.

ANSWER.—The sulphur compounds found in many crude petroleums are probably the causes of the conditions mentioned. In the oil fields west of the Mississippi River, "high sulphur crudes" are common. Sulphur constituents especially characterize "crudes" from Texas, Mexico and California. East of the Mississippi, only in Ohio, Indiana and Ontario have sulphur compounds in native crude oils proved troublesome to a notable degree. These "high sulphur crudes" yield as high a content of these compounds as 5 per cent. Hydrogen sulphide is spontaneously split off from the "crudes" to a maximum of about 0.8 per cent. Carbon disulphide may be present in restricted areas or individual wells, but greater emphasis centers about the hydrogen sulphide as the agent responsible for the sudden deaths, the ocular lesions, the pharyngitis, the bronchitis and the pulmonary edema, originating in the oil fields as a result of trade practices. This gas is toxic for experimental animals in concentrations so low as 0.005 per cent. This gas thus merits a place alongside hydrocyanic acid. Injuries to the eyes range from mild conjunctivitis to profound ulceration of the cornea, with all possible intermediate gradations. Secretions may be increased, photophobia arises, mucopurulent discharges develop and temporary blindness may supervene. Deafness is less well associated with hydrogen sulphide as the responsible causative agent. Carbon disulphide is, however, a well known cause of deafness. Hayhurst states in a discussion of carbon disulphide toxicity, "Hearing is early impaired and more often than sight." In the present instance, if these eye and ear injuries are industrial in origin and occur among oil field workers, sulphur compounds are to be accepted as the most likely cause.

For a continuation of this discussion, reference is made to:

Mitchell, C. W., and Davenport, S. J.: Hydrogen Sulphide Literature, *Pub. Health Rep.* **39**:1 (Jan. 4) 1924.
Kober, G. M., and Hayhurst, E. R.: Industrial Health, Philadelphia, P. Blakiston's Son & Co., 1924, p. 360.
Sayers, R. R.; Smith, A. C.; Fieldner, A. C.; Mitchell, C. W.; Jones, G. W.; Yant, W. P.; Stark, D. D.; Katz, S. H.; Bloomfield, J. J., and Jacobs, W. A.: Investigation of Toxic Gases from Mexican and Other High-Sulphur Petroleums and Products, Bull. 231, U. S. Bureau of Mines, 1925.
Yant, W. P., and Fowler, H. C.: Hydrogen Sulphide Poisoning in the Texas Panhandle, Big Lake, Texas, and McCamey, Texas, Oil Fields, Bull. 2773, U. S. Bureau of Mines, October, 1926.

DIABETES AND LICHEN PLANUS—MERCURY AND GLYCURESIS

To the Editor:—1. Has diabetes mellitus been considered as a cause of lichen planus? 2. Do diabetes mellitus and lichen planus many times coexist; if so, is their etiology considered of different origin and minus relationship to each other? 3. Would the intramuscular injection of mercuric salicylate produce a glycuresis in a patient whose urine was sugar free before the use of the mercuric salicylate? Would the intramuscular injection of mercuric salicylate produce an increased glycuresis in a patient whose urine manifested a slightly positive reaction to Benedict's qualitative solution before the use of the mercuric salicylate and, if so, would the glycurests be expected to increase progressively with each increase in the number of intramuscular injections of the mercuric salicylate?

HORACE FOX, M.D., Bath, Maine.

ANSWER.—1. Diabetes mellitus has not been considered as a cause of lichen planus for the reason that there is no evidence that could suggest such etiology.

2. There is no reason why the two diseases should not occur simultaneously in the same patient. Thus, a diabetic patient who has had the disease for many years might develop lichen planus, but, as far as is known at present, it would be merely a coincidence.

3. There appears to be no evidence that mercury causes glycosuria in man, except under extraordinary conditions.

DISTANCE FOR NORMAL HEARING

To the Editor:—I should like to know the distance for normal hearing, both for conversation and also the whispering voice.

R. V. WILLIAMS, M.D., Rushford, Minn.

ANSWER.—The distance for normal hearing for both conversational and whispered voice may vary considerably, depending especially on the pitch and intensity of the examiner's voice. The examiner should drill himself into the habit of using the voice with approximately the same intensity and pitch each time he does the test. This is best accomplished by employing the residual air. He should then determine what his normal distance is for both whispered and conversational voice by testing a group of people with known normal hearing under similar conditions. When the examiner has determined these normal average distances he should carry out his tests, starting at those distances and gradually approaching the patient until he is able to hear. In small rooms it is better to test first with the whispered voice; if that is not heard, the conversational tone should then be used. Ordinarily the unaccentuated whispered voice is heard approximately 20 feet and the conversational tone many times this distance. While the voice test is open to some objection on the basis of absolute accuracy, it is still of great importance as it gives the examiner an idea of the practical hearing efficiency of the patient.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

CALIFORNIA: San Francisco, July 15-18. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento, Calif.

SOUTH DAKOTA: Rapid City, July 16, 1929. Dir., Dr. H. R. Kenaston, Bonesteel, S. D.

WASHINGTON: Seattle, July 15-17, 1929. Dir., Mr. Charles Maybury, Olympia, Wash.

Missouri Reciprocity Report

Dr. Ross Hopkins, chief of licensure of the State Board of Health of Missouri, reports that eleven candidates were licensed by reciprocity and one by court order from January to March, 1929. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1906)	Kansas
University of Kansas School of Medicine		(1926, 2)	Kansas
University of Maryland School of Medicine and the College of Physicians and Surgeons		(1919)	Maryland
University of Minnesota Medical School		(1925)	Minnesota
Kansas City Hahnemann Medical College		(1909)	Kansas
Nondescript graduates			5 Arkansas, 1*

* Licensed by court order, Jan. 2, 1929.

South Dakota January Examination

Dr. H. R. Kenaston, director of the division of medical licensure, Board of Health and Medical Examiners of South Dakota, reports the written, oral and practical examination held at Bonesteel, Jan. 15-16, 1929. The examination covered 15 subjects and included 105 questions. An average of 75 per cent was required to pass. Five candidates were examined, all of whom passed. Six candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Rush Medical College		(1927)	86.7, (1929) 87.8
University of Illinois College of Medicine			(1927) 87.5
University of Minnesota Medical School			(1928) 91.5
Jefferson Medical College of Philadelphia			(1926) 88

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Indiana University School of Medicine		(1927)	Indiana
State University of Iowa College of Medicine		(1908)	N. Dakota
Homeopathic Med. Dept. of the Univ. of Minnesota		(1904)	Minnesota
University of Minnesota Medical School		(1917), (1928)	Minnesota
University of North Carolina School of Medicine		(1906)	N. Carolina

West Virginia March Examination

Dr. W. T. Henshaw, secretary, Public Health Council of West Virginia, reports the written, oral and practical examination held at Charleston, March 5-6, 1929. The examination covered 11 subjects and included 110 questions. An average of 80 per cent was required to pass. Four candidates were examined, three of whom passed and one failed. Eight candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
University of Tennessee College of Medicine		(1926)	83.8
Medical College of Virginia		(1928)	84.5
University of Virginia Department of Medicine		(1928)	87.1
	FAILED		
Meharry Medical College		(1927)	77.2

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Northwestern University Medical School		(1911)	Montana
University of Louisville School of Medicine		(1928)	Kentucky
University of Maryland School of Medicine and the College of Physicians and Surgeons		(1927)	Maryland
University of Michigan Medical School		(1925)	Michigan
Western Reserve University School of Medicine		(1926)	Ohio
Vanderbilt University School of Medicine		(1927)	Tennessee
University of Tomsk, Siberia, Russia		(1912)*	Illinois
Undergraduate			Tennessee

* Verification of graduation in process.

Iowa February Examination

Mr. H. W. Grefe, director of examinations and licensure, Iowa Department of Health, reports the written examination held at Des Moines, Feb. 21-23, 1929. The examination covered eight subjects and included 100 questions. An average of 75 per cent was required to pass. Two candidates were examined, both of whom passed. Thirteen candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Johns Hopkins University School of Medicine		(1905)	86.4
Medical College of Virginia		(1918)	81.4

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1927) Illinois, (1928)	Kansas
University of Illinois College of Medicine		(1918)	Illinois
University of Minnesota Medical School		(1925)	Minnesota
Central Medical College of St. Joseph		(1909)	Missouri
St. Louis University School of Medicine		(1924)	Missouri
Creighton University School of Medicine		(1910), (1926)	Nebraska
Univ. of Nebraska Coll. of Med.		(1927) Nebraska, (1927)	Penna.
University of Pennsylvania School of Med.		(1899), (1916)	Penna.
University of Texas School of Medicine		(1917)	Texas

Arkansas May Examination

Dr. James W. Walker, former secretary of the Board of Medical Examiners of Arkansas, reports the written examination held at Little Rock, May 13-14, 1929. The examination covered 12 subjects and included 120 questions. An average of 75 per cent was required to pass. Fifty candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
University of Arkansas School of Medicine		(1929)	77.9, 81, 81.3, 81.8, 82.2, 83.3, 83.5, 83.7, 83.8, 83.9, 84, 84.6, 84.7, 84.8, 84.8, 84.9, 84.9, 85.1, 85.2, 85.3, 85.3, 85.4, 85.4, 85.9, 85.9, 86.1, 86.2, 86.3, 86.5, 86.6, 86.6, 86.6, 86.9, 87, 87.8, 87.9, 88, 88.2, 88.8, 89, 89.1, 90.9
University of Louisville School of Med.		(1896)	83.8, (1909) 83.1
Chattanooga Medical College			(1904) 81.3
Memphis Hospital Medical College, Memphis			(1900) 81.6
University of Nashville Medical Department			(1900) 81
University of Tennessee College of Medicine			(1929) 85.3, 86.6
Vanderbilt University School of Medicine			(1929) 86

Book Notices

HANDBOOK OF BACTERIOLOGY FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Joseph W. Bigger, M.D., Sc.D., F.R.C.P.I., Professor of Bacteriology and Preventive Medicine, University of Dublin. Second edition. Cloth. Price, $5. Pp. 452, with illustrations. New York: William Wood & Company, 1929.

The author has produced a well written and reasonably complete textbook for introductory courses in medical bacteriology. The first part of the book is devoted to laboratory technic, and the last half to descriptions of pathogenic bacteria and their activities. A discussion of immunity and a chapter on bacterial classification are included.

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. Edited by Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Volume I: The Diagnosis and Treatment of Disorders of Metabolism. By James S. McLester, M.D., Professor of Medicine at the University of Alabama. Cloth. Price, $100 per set of 10 volumes. Pp. 328, with illustrations. New York: Oxford University Press, 1928.

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. Edited by Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Volume II: The Diagnosis and Treatment of Diseases of the Stomach and Intestines. By William Fitch Cheney, B.L., M.D., Clinical Professor of Medicine, Stanford University Medical School. Cloth. Price, $100 per set of 10 volumes. Pp. 280, New York: Oxford University Press, 1928.

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. Edited by Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Volume III: The Diagnosis and Treatment of Diseases of the Heart. By Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Cloth. Price, $100 per set of 10 volumes. Pp. 355, with 21 charts. New York: Oxford University Press, 1928.

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. Edited by Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Volume IV: The Diagnosis and Treatment of Diseases of the Thyroid. By James H. Means, M.D., Jackson Professor of Clinical Medicine, Harvard University, and Edward P. Richardson, M.D., John Homans Professor of Surgery, Harvard University. Cloth. Price, $100 per set of 10 volumes. Pp. 366, with 51 illustrations. New York: Oxford University Press, 1929.

The Oxford University Press, noted for the exceptional quality of its medical productions from both a literary and a typographic point of view, now presents the first four volumes of a series of monographs in the field of internal medicine, sold

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in a unit and representing the combined views of a number of leading clinicians.

The monographs are printed in the loose leaf form with a view, no doubt, to repeated revisions, so that the purchaser may be assured of having readily available material constantly up to date. Medical science advances so rapidly that every division of internal medicine is almost a specialty in itself. Already special societies are devoted to internal secretions, metabolism, heart disease and gastro-enterology. In the presence of the vast amount of attention given to diagnosis by physical and laboratory methods, treatment tends to be overlooked. This series of monographs emphasizes two aspects, namely, the diagnosis and treatment, leaving to more extensive systems, consideration of history, pathology and preventive medicine.

The first volume of the series includes excellent essays on normal metabolism, disturbances due to water balance and acid-base equilibrium, gout, obesity, diabetes and the more unusual conditions of pentosuria and hemochromatosis. Each of the subjects is fully elaborated from the two points of view that have been mentioned, and the books are unusually sound in the recognition of both remedies based on long experience and those established by scientific study. Particularly to be mentioned is the exceeding readability and extraordinarily fine editing of these volumes.

The second book in the series is concerned with gastro-enterology. The writings of the author have made physicians familiar with his practical considerations of subjects in this field. He seems inclined to favor the use of the ferments in such vague conditions as gastritis, but he recognizes also the value of psychotherapy. In his medicinal therapy, Dr. Cheney is obviously far from a therapeutic nihilist. For instance, in gastroptosis he recommends a combination of sodium bromide, 1 ounce, in 3 ounces each of the ammoniated elixir of valerian and elixir of lactopeptine. One wonders if he may, at some time or other, have tried to list each one of the ingredients the patient receives in this prescription. In the chapter on gall-bladder dyspepsia he separates the diagnosis of the conditions due to disturbances of the gallbladder from those due to disturbances of the stomach. In this chapter, also, the author is exceedingly free in the recommendation of proprietary remedies that have not been passed by the Council on Pharmacy and Chemistry and which contain a multiplicity of ingredients sold with extraordinary claims. Dr. Cheney is quite frank as to the scientific background of his therapy. He says, "The exact explanation as to how these remedies work may not be possible, but the fact remains that the condition of patients with gall-bladder diseases is benefited by them." We have heard the same kind of argument advanced by a chiropractor.

Dr. Henry Christian, who has edited the series, has written the third volume. It is marked by his usual careful considerations, by his recognition of the factors known today relating to heart disease and by a recognition, also, of the increasing importance of diseases of the heart and of the necessity for research if progress is to be made. This volume is a classic thesis in its field and a reliable guide for every practitioner.

In their consideration of diseases of the thyroid, Drs. Means and Richardson reflect the opinions of a special service devoted to the study of the thyroid gland in the Massachusetts General Hospital. They elaborate their considerations by a historical background, a consideration of embryology and anatomy; they provide numerous case reports with comments and their contributions are illustrated. Thus this volume is not a monograph but is in fact an actual textbook of diseases of the thyroid. Because of its complete character, its modernity and the exceedingly fine type of presentation, it is not unwarranted to characterize it the best one volume consideration of diseases of the thyroid from the point of view of the physician that is thus far available. Such surgical considerations as are involved are the type that must appeal particularly to the general practitioner. He is not provided with a variety of technics for various operations, but he is given full information as to preoperative and postoperative care.

The four books reviewed may be recommended to every reader as a fine example of the best type of medical writing, medical editing and medical publishing available in this country. The books are a credit, not only to their authors, but particularly also to the editor and the publisher.

RÖNTGENDIAGNOSTIK DER KNOCHEN- UND GELENKERKRANKUNGEN IN TABELLENFORM. Von Dr. Emmerich Markovits, Vorstand der Röntgenlaboratorien im Sanatorium auf der Margareteninsel. Mit einem Vorwort von Professor Dr. Robert Kienböck, Vorstand der Röntgenabteilung der allgemeinen Poliklinik in Wien. Paper. Price, 14 marks. Pp. 159, with illustrations. Leipzig: Georg Thieme, 1929.

This book has as much real roentgenologic diagnostic information as any other book of its size, if not more. It provides an excellent brief summary of the roentgen diagnosis of bone and joint diseases and other conditions. The author has been exceptionally careful and judicious in the selection of his material, and has shown excellent ability in its presentation. The fact that Holzknecht's name appears is a recommendation for any book, but the foreword by Kienböck makes it doubly sure that the material presented is authentic. The selection of reproductions from other works is well done and due credit is given. The author has inaugurated an unusual method of presenting roentgenograms in diagrammatic form, for which both he and the publishers deserve credit.

PHYSICAL THERAPEUTIC TECHNIC. By Frank Butler Granger, A.B., M.D., Director of Physiotherapy, United States Army. With a foreword by William D. McFee, M.D. Cloth. Price, $6.50 net. Pp. 417, with 135 illustrations. Philadelphia: W. B. Saunders Company, 1929.

In the development of physical therapy in the United States during the past twenty-five years the late Dr. Frank B. Granger's rôle as a teacher and organizer was a conspicious one, so that his posthumous volume is a fitting memorial to his tireless industry. It makes no pretense to be a complete text-book for the specialist and is intended rather as a guide for the physician who has installed a limited equipment and wants to learn about its safe possibilities. Its authoritative opinion in reference to various widely advocated newer methods of treatment deserves the fullest attention of all physicians. The introductory chapters lead by easy stages to a comprehension of the therapeutic effects and of the proper technic of the various physical energies. Emphasis is laid on the importance of the galvanic current as the keystone of electrotherapy. The inclusion of interrupted galvanism in the chapter on ionization, however, is perhaps somewhat far-fetched. Bristow's war-time technic of eliciting graduated muscular contractions by a simplified type of faradic coil is quoted at length and should do much to counteract the present overemphasis on complicated and expensive types of low tension wave generators. The usefulness of the several static electric currents in a field peculiarly their own is concisely presented. Again, in the discussion on the manifold uses of modern diathermy, a laudable attempt is made to illustrate the technic of regional application instead of showing a large array of apparatus. Unfortunately, many of the photographs show too much of the general field of operation and do not bring out with sufficient clearness the more important details. Then, too, some of the illustrations bear no inscriptions at all. The chapter on ultraviolet radiations is practical and duly conservative. It is stated that the extravagant claims for special infra-red generators have not as yet been corroborated by scientific proof. The importance of hydrotherapy and massage is recognized and Granger makes the plea that, as soon as the physician needs an assistant, a man or woman trained in massage and skilled in muscle reeducation be secured, instead of the physician's attempting to teach the office secretary to apply electrodes and turn on switches. A special chapter on the hospital department of physical therapy gives an outline of both an ideal as well as a minimal equipment, with sound advice as to its administration. In the second half of the volume nearly two hundred pages is devoted to discussion of the clinical application and technic of physical measures in the various departments of medicine and surgery. This is the most valuable part of the book because it is based on twenty-five years' actual experience and on a sound and broad clinical sense; it gives advice as to what, where, how much, how long and how often use of physical methods has proved most helpful in a great variety of medical and surgical conditions. Some of the special chapters, as those on low back conditions, arthritis, neurasthenia, hemiplegia and paralysis, are most praiseworthy. All physicians interested in physical methods—and nowadays no one can afford not thus to be interested—will find Granger's work a reliable source of information as to the possibilities and limitations of modern physical therapy.

A SURGICAL DIAGNOSIS. By J. Lewi Donhauser, A.B., M.D., F.A.C.S., Clinical Professor of Surgery, Albany Medical College (Union University). Cloth. Price, $10. Pp. 799, with illustrations. New York: D. Appleton & Company, 1929.

This volume, contributed by a teacher of surgical diagnosis for nearly twenty years, is essentially a book for medical students, hospital residents, general practitioners, and teachers of surgical diagnosis. The author's aim is to present the subject in as practical a manner as possible. The book begins with a chapter on case history taking. Under the section dealing with questioning the patient, some of the subdivisions consider subjective facts referring to the respiratory tract, the digestive tract and the genito-urinary tract; also facts pointing to a tobacco history, a venereal history and an alcoholic history. This is followed by sections on inspection, palpation, percussion, auscultation and laboratory data. Under each of these the procedures to be carried out and the facts to be sought are listed in tables. The chapter ends with a section on interpretations in which are listed conditions that occur congenitally, in infancy and childhood, in puberty and adolescence, in early adult life, in middle age and in old age. It also lists diseases occurring in certain occupations and localities, and ends with a list of the sex incidence of surgical diseases, not considering structural differences, listing separately those occurring in males and in females, and finally giving a list of hereditary diseases. The other chapters present infections, tumors, the head, the neck, the thorax, the male and the female genito-urinary tract, peripheral nerve injuries, bones and joints, fractures and dislocations, arteries, veins, lymphatics, muscles and tendons, the abdomen, the abdominal wall, the peritoneum, mesentery and omentum, the stomach, duodenum and small intestine, the appendix and cecum, the large intestine, intestinal obstruction, the pancreas and spleen, the liver, gallbladder and ducts, and the blood in relation to surgical conditions. While the text discusses in a practical manner the numerous subjects covered, the discussion of each subject is necessarily brief, owing to its condensation in a single volume. The chief value of the work is to be found in the large number of regional, anatomic, etiologic and differential charts. The regional and anatomic charts list in tabular form such facts as acute abdominal pain in the various abdominal quadrants, and chronic abdominal pain in various quadrants and regions. The etiologic charts list inflammatory conditions and infections of the neck, conditions causing hemoptysis, scrotal swellings, hematuria, pain in the back, ascites and hematemesis. The differential charts present in horizontal and vertical columns, on large sheets folded into the text in many cases, the facts showing the relationship of the various diseases to one another and a graphic picture of their symptoms as a whole. These charts comprise the essentially novel feature of the work and will undoubtedly be found useful both by teachers and by students. The book is well organized and there is a complete index.

THE TONSILS AND ADENOIDS AND THEIR DISEASES INCLUDING THE PART THEY PLAY IN SYSTEMIC DISEASES. By Irwin Moore, M.B., C.M. Cloth. Price, $6.50. Pp. 395, with 107 illustrations. St. Louis: C. V. Mosby Company, 1928.

This begins with a discussion of the anatomy of the tonsils and their functions, followed by a review of the bacteriology of tonsillar disorders. The question of the tonsil as a focus of infection is considered in detail and is followed by a discussion of the commoner diseases of the tonsils, such as ulceromembranous infections, diphtheria, tuberculosis and hyperkeratosis. Neoplasms, both benign and malignant, are considered. The surgical removal of the tonsils with its indications and contraindications is interestingly handled. The author discusses extensively the complications following tonsillectomy as well as the end-results of enucleation on the general health. These questions are often given scanty attention in even the more complete textbooks on diseases of the nose and throat. An example of the thoroughness with which the author has attacked his subject is his detailed consideration of such topics as the treatment of diseases of the tonsils in conditions in which surgical removal is contraindicated. The use of various chemical preparations, roentgen rays and diathermy is completely discussed. More than sixty pages is devoted to the question of postoperative hemorrhage alone, its cause and treatment, with a review of the literature and numerous case reports. Diseases of the adenoids are not slighted. Each chapter is followed by a complete bibliography of the various subjects discussed. The illustrations are numerous, clear and well chosen. Future editions will undoubtedly handle such diseases as have recently come to the attention of the medical profession; for instance, agranulocytic angina, maladies of the tonsils that occur as complications of the blood dyscrasias, and the recently described monocyte angina.

LIST OF PSYCHIATRIC CLINICS FOR CHILDREN IN THE UNITED STATES. Bureau Publication No. 191. Paper. Price, 10 cents. Pp. 28. Washington, D. C.: Supt. of Doc., Government Printing Office, 1929.

This list includes only clinics that are in charge of psychiatrists. The majority of the clinics are connected with state hospitals, although a large number are connected with other hospitals and a number are independent of any hospital. Names of persons at the head of psychiatric institutions and organizations in each state, both governmental and civil, are given.

SANATORIUM SCHATZALP DAVOS, 1900-1928. Dem Andenken an Chefarzt Dr. Lucius Spengler (1858-1923). Paper. Pp. 133, with 6 illustrations.

This is a festschrift, a collection of short articles by members of the staff of Dr. Spengler, who died in 1923. The collection includes studies on the permanence of the cure by artificial pneumothorax, climate of the Schatzalp district, laryngeal tuberculosis as an indication for high altitude cure, and pulmonary hemorrhage in high altitudes. While the book presents nothing new it may be read with considerable interest by those who have had experience in the treatment of tuberculosis.

GLASGOW ROYAL MATERNITY AND WOMEN'S HOSPITAL. Medical Report for the Year 1927. Prepared by J. N. Cruickshank, M.D., F.R.F.P.S., M.R.C.P., Registrar to the Hospital. Boards. Pp. 94. Glasgow: William Hodge & Company, Ltd., 1928.

The last annual report of this institution was reviewed in these columns and comment made on the thoroughness with which the statistics are collected. The attempt to standardize the making of statistics of hospitals in general and of maternities in particular is most commendable and such a work should be begun in the United States. Every hospital publishes its statistics in its own particular way and there is no means by which one can compare its results with other institutions. In this report the patients are divided into three categories: A, those who had been under antenatal supervision; B, emergency cases; C, those applying for admission without previous supervision. The forlorn conditions under which some women of Glasgow have to give birth to their babies is evidenced by the fact that twenty-nine arrived at the hospital in such a state that they died before they could be delivered. A cursory examination of the numerous tables leaves one with a distinct impression that the material brought into this institution contains a larger number of serious complications than most maternities and it is surprising that the maternal and fetal death rates are not higher than here presented. The system of tabulating cases given in this book could be well used as a model on which to build an American plan of statistics.

METHODS AND PROBLEMS OF MEDICAL EDUCATION. (Ninth Series.) Paper. Gratis. Pp. 386, with illustrations. New York: Rockefeller Foundation, 1928.

This report deals mainly with the institutes of legal medicine in the universities of Europe. There are twenty-eight articles in all, twenty-three of which deal solely with the legal institutes of various European universities. The other five concern the medicolegal institute in Egypt; position of legal medicine in Canadian universities; proposed plans for the department of legal medicine at Havana, Cuba; the Massachusetts medicolegal system, with plans for a pathologic institute in Boston; and the responsibility of the chief medical examiner of New York in relation to medical progress and research. These are supplemented by building and floor plans of the various institutes and other illustrations showing their equipment. From this report one can obtain an excellent comparative idea of the various universities represented, and it should be of much value to officers of medical schools in which new departments of legal medicine are contemplated.

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Medicolegal

Liability of Hospital in a Confinement Case

(Birmingham Baptist Hospital v. Branton (Ala.), 118 So. 741)

This was an action brought by Branton against the Birmingham Baptist Hospital under the Alabama homicide statute, on account of the death of his son, incident to birth. Branton alleged negligence on the part of the hospital, and in the trial court judgment was given in his favor. The hospital thereupon appealed to the supreme court of Alabama, which affirmed the judgment. On the facts that formed the basis of this case, suit was previously brought by Branton's wife, and a judgment in her favor affirmed (*Birmingham Baptist Hospital* v. *Branton* [Ala.], 113 So. 79; J. A. M. A. **89**:2140 [Dec. 17] 1927).

Mrs. Branton was a patient in the hospital, awaiting confinement. When labor came on, her husband was with her. A nurse asked him to leave the room so that she might examine the patient. According to the testimony, he requested her to remain with the patient until his return, and she promised to do so. The nurse made no examination, made light of the patient's request that she summon a physician, and left the room. The patient pushed the call button to summon aid, but no one responded. The child was born, and a student nurse thereafter responded to the patient's summons and called a physician to her aid. The mother testified that she "heard the child strangle like it was crying," before the student nurse responded to her call. The physician who attended her testified that the "head of the child was born" when he arrived, with the cord very loose around the neck; that he cut the cord and finished the delivery; that the baby did not breathe after it was born, and that the baby was "perfectly white all over." In his opinion, if its death was due to strangulation by a tight cord around its neck, the body should have been blue. "Stillborn babies are white," he said, and in his opinion the child was born dead. The report of the case does not show whether a postmortem examination was or was not made.

The line of demarcation, said the court, between the civil rights of a mother and of her unborn child is concurrent with the establishment of the separate existence of the mother and the child by birth. Injury to the mother before birth is no basis for action in damages by the child or its personal representative. The mother of an unborn child may recover damages for injury to her and to the child while it is as yet unborn, "if such injury and damage is not too remote." On behalf of the hospital it was argued that no duty could be owing to an unborn child without knowledge of its existence. This suit, however, said the court, was based on the injury to the father of the child, as to his wife and as to the child about to be born. As to the father of the child, the measure of the hospital's duty was that degree of care, skill and diligence used by hospitals generally in the community and by the express or implied contract of the hospital. Whether the hospital knew or was informed that the patient was in labor, or that she requested that a physician be called, and whether there was reasonable compliance with such request; whether or not the child was born without the proper assistance of a nurse or a physician; whether it was stillborn or was normal and alive at the time of birth, and whether the child died after its birth, from lack of attention, were proper questions for decision by the jury.

Rheumatoid Arthritis and Total Disability

(New York Life Ins. Co. v. McLean (Ala.) 118 So. 753)

McLean, a physician, was insured by the New York Life Insurance Company. The policy provided for certain payments, "if the insured becomes wholly and permanently disabled." McLean contended that he had become permanently disabled by disease, but the insurer contended that he was not permanently disabled within the meaning of the policy. He brought suit and judgment was given in his favor. The insurer thereupon appealed to the supreme court of Alabama, which affirmed the judgment.

The single question at issue was whether or not McLean, by reason of disease, had become wholly disabled, "so that he is and will be, presumably, thereby permanently and continuously prevented from engaging in any occupation whatever for remuneration or profit" within the meaning of the policy. Citing *U. S. Casualty Co.* v. *Perryman*, 203 Ala. 212, 82 So. 468, the court said:

> If the insured's physical condition, as a result of the disease, is such that common care and prudence require that he desist from transacting business, and his condition is presumably permanent and continuous, he is permanently and totally disabled, within the meaning of the contract, though he may not be physically disabled to perform occasional acts connected with his business, profession or occupation.

The insured was suffering from chronic rheumatoid arthritis; was afflicted with a congenital malformation of the eyeballs, which produces a high degree of short sightedness; and had amblyopia and weakness of the muscles of the eyes, disabling him from using his eyes for any length of time without blurring of the vision. These diseases are permanent and incurable. According to the testimony of the insured, he had given up the active practice of his profession in 1916. His testimony indicated that he was suffering from an advanced stage of rheumatoid arthritis. On the whole, said the court, the evidence presented a question of fact whether common prudence and care required that the insured desist from the efforts he had made to look after his business, because of his decreasing physical strength, rather than aggravate the diseases from which he was suffering. The supreme court could find no error in the proceedings whereby a judgment was given in the lower court in favor of the insured.

Life Insurance and Self-Treatment by the Insured

(Atlantic Life Ins. Co. v. Stringer et al. (Ala.), 28 Fed. (2d) 665)

William L. Stringer, a physician, applied for life insurance. A policy was issued by the Atlantic Life Insurance Company, Jan. 29, 1927. The insured died, April 26, 1927, of cerebral apoplexy, which "is frequently caused by syphilis, although it may be caused by other chronic diseases." Lena L. Stringer and others later sued to obtain the amount of the insurance, and in the U. S. district court for the northern district of Alabama judgment was rendered in their favor. The defendant, the insurer, appealed to the circuit court of appeals, fifth circuit.

In the application blank used by the insured, the following instruction was given by the insurer: "Name all causes for which you consulted a physician during the last ten years." The insured replied that he had had "la grippe" in December, 1925, and named Dr. John Kimbrough as attending physician. The insurer then propounded the following question: "Have you had any other ailment, illness or condition which has not been mentioned above? what? when? length of time sick? severity? results? attending physician?" To this question the insured answered "No." The insurer contended that these answers were false and fraudulent and constituted material misrepresentations, and that the trial court erred in failing to direct a verdict in its favor because of them.

A year or more prior to the date of his application for insurance, Dr. Stringer had had Dr. Kimbrough, a fellow physician and a friend, take specimens of his blood for Wassermann tests. Reports of the results were sent to Dr. Kimbrough, who delivered them to Dr. Stringer. What these results were, the reported decision of the appellate court does not show except by implication, which indicates that they were negative. After the tests, however, six doses each of neoarsphenamine and mercury were furnished by Dr. Stringer to Dr. Kimbrough, to be administered to Dr. Stringer. Dr. Kimbrough was not asked for advice, either as to the Wassermann test or as to the administration of neoarsphenamine and mercury. He merely followed Dr. Stringer's instruction. Dr. Kimbrough was not the regularly appointed medical examiner of the insurer, but in the absence of the regular examiner he examined Dr. Stringer and filled in the answers to the questions contained in Dr. Stringer's application. The insurer contended that Dr. Stringer "consulted" Dr. Kimbrough as a physician. Therefore, the insurer contended, when Dr. Stringer was called on in the application blank to name all causes for which he had consulted a physician during the preceding ten years and failed to name the causes for which he consulted Dr. Kimbrough, the answer was false and fraudulent. In the trial court, however, the jury was instructed that the mere mechanical administration of a remedy

which the person taking could not administer to himself does not constitute a consultation. In this view the circuit court of appeals concurred. The physical acts of taking blood tests and of administering "hypodermic injections" could at most be considered treatments, and the question propounded by the insurer in its application blank did not call for an answer stating what "treatments" were given by a physician. To "consult" means to seek advice, aid or information. To the question whether he had any ailment, illness or condition which he had not mentioned in his preceding answer, Dr. Stringer answered "No." Here, however, he was called on to give merely information which rested largely on opinion. It may be that he believed he had syphilis, and the evidence strongly indicated that he did so believe. But it rested with the jury to determine what Dr. Stringer believed. If the jury found that the insured did not believe he had syphilis, it might find that his denial of other ailments, illnesses and conditions was not made with intent to defraud. If Dr. Stringer had such intent, Dr. Kimbrough helped him carry it out. Dr. Kimbrough not only made the test and administered the treatment but also as medical examiner wrote down the answers to the questions contained in the application. If the jury believed that Dr. Kimbrough, as examining physician, acted honestly, they were authorized to find that neither the insured nor the examining physician believed that the insured had syphilis. It was not error, said the circuit court of appeals, to submit the case to the jury. The judgment of the trial court was therefore affirmed.

Damages Awarded for Criminal Abortion

(Martin v. Hardesty (Ind.), 163 N. E. 610)

The complainant in this case charged that Martin, a practicing physician, operated on the deceased wife of Hardesty to procure an abortion, and that as a result she died. Hardesty, as administrator of his wife's estate, obtained a judgment for $5,000 against Martin, from which Martin appealed to the appellate court of Indiana.

It is a criminal offense in Indiana to perform an operation with intent to produce an abortion unless the operation is necessary to save human life. It is likewise an offense to submit to such an operation. The laws of the state provide that, when the death of a person is caused by the wrongful act or omission of another, the personal representative of the deceased may maintain an action against the person responsible for the death if the deceased would have been able to maintain an action if he had lived. The right of the administrator of the deceased in this case to maintain an action was challenged on the ground that the deceased, if she had lived, could not have maintained an action against Martin, who operated on her, because she consented to the illegal act. At common law, the general rule was that consent to a tort or injury was a complete shield against civil liability. To this rule, however, there was an exception in the case of battery, or intentional injury to the person. The basis of this exception seems to have been the interest of the state itself, which required that no person make an agreement to sacrifice his life or suffer injury to his person. Any such agreement was void. Quoting from the decision of the supreme court in *Adams* v. *Waggoner*, 33 Ind. 531, 5 Am. Rep. 230, the court stated the law to be:

> That an agreement, leave, or license, to do an act which in itself is unlawful, forbidden by positive law, and for the doing of which a penalty is attached or denounced, whether a felony or a misdemeanor, is no defense to an action for damages by a party who has been injured by the doing of such act, though he made the agreement, gave the license, leave, and consent.

While there are decisions to the contrary, said the court, the weight of judicial authority is in accord with the principle stated above. The consent of the deceased to the performance of the illegal operation that resulted in her death was held to be, therefore, no defense to the action by her legal representative against the person who performed the operation. Complaint was made by the appellant, Martin, that the damages awarded were excessive. The evidence showed that the deceased was 31 years old, in good health, and able to do her part toward caring for herself, her husband and their three children. In the light of such evidence the court held that the amount of the damages, $5,000, was not excessive. The judgment of the court below was affirmed.

Society Proceedings

COMING MEETINGS

American Pharmacological Society, Boston, August 19-23. Dr. E. D. Brown, University of Minnesota Medical School, Minneapolis, Secretary.
American Physiological Society, Boston, August 19-21. Dr. W. J. Meek, University of Wisconsin Medical School, Madison, Secretary.
American Society for Experimental Pathology, Boston, August 19-23. Dr. Carl V. Weller, 1020 Ferdon Road, Ann Arbor, Mich., Secretary.
American Society of Biological Chemistry, Boston, August 19-23. Dr. D. W. Wilson, University of Pennsylvania Medical School, Philadelphia, Secretary.
Colorado State Medical Society, Greeley, September 3-5. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.
Federation of American Societies for Experimental Biology, Boston, August 19-23. Dr. Carl V. Weller, 1020 Ferdon Road, Ann Arbor, Mich., Secretary.
Montana, Medical Association of, Great Falls, July 17-18. Dr. E. G. Balsam, Box 88, Billings, Secretary.
Washington State Medical Association, Yakima, September 3-5. Dr. Curtis H. Thomson, 1305 Fourth Avenue, Seattle, Secretary.

MEDICAL ASSOCIATION OF GEORGIA

Eightieth Annual Session, held at Macon, May 8-10, 1929

The President, DR. C. K. SHARP, Arlington, Ga., in the Chair

Certain Splenic Syndromes with Indications for Splenectomy

DR. L. G. BOWERS, Dayton, Ohio: Recent experimental work has demonstrated that the spleen is an important member of the group of reticulo-endothelial tissues. The specialized endothelial phagocytes of the spleen probably play a major rôle in the destruction of blood platelets. Experience has shown that preoperative transfusion is an almost imperative adjunct to the treatment of the splenopathies discussed. Splenectomy offers the greatest hope for improvement or cure in cases of hemolytic jaundice, thrombocytopenic purpura hemorrhagica and Banti's disease.

Enlargement of the Cervical Lymph Nodes

DR. D. C. ELKIN, Atlanta: In the past four years ninety patients have sought treatment because of enlargement of the cervical lymph nodes. Of these, fifty were classified as having primary lymphatic neoplasms. In the remainder, the enlargement was due either to infections or to malignant metastasis. In nearly half the cases the provisional diagnosis disagreed with the final pathologic diagnosis. In this series, the diagnosis of tuberculosis was the most difficult, largely because other conditions, notably Hodgkin's disease and lymphosarcoma, were incorrectly classed as tuberculous. Other lymphatic diseases often present the same characteristics, and unless there is lung involvement or chronic suppuration of the nodes, only a microscopic section will establish the diagnosis. In fifteen cases of leukemia the enlarged cervical nodes were the first noticed in about one half of the cases. In seven cases of lymphatic leukemia the first complaint was of the presence of enlarged cervical nodes. In four of eight cases of Hodgkin's disease, the cervical nodes were the first involved. Of fifteen patients with lymphosarcoma, the cervical nodes were first involved in eleven. In two cases the disease was rapidly fatal, but in one it has remained localized in the neck for five years and has responded rapidly and favorably to treatment.

Clinics for Children of the Preschool Age in Atlanta

DR. LEWIS D. HOPPE, Atlanta: Dr. J. P. Kennedy, health officer for the city of Atlanta, established sixteen preschool clinics in that city eight years ago. Since the summer of 1923 I have conducted these clinics for him. If the financial status of the family is such that it can afford a physician, the mother is simply told what defect the child has and is advised to take him to her physician for treatment. If the family cannot afford to have a physician, advice, diet lists and the necessary prescriptions are given. The age limit for children attending the clinics is up to 4 years. No children with contagious diseases are admitted. I have examined 4,700 children. Of these, 2,773 were under 1 year of age. In the entire group, 46 per cent were found to present some defect. Thirty-eight per cent showed defects of nutrition. Undernutrition (20 per cent or more undernourished) leads the list with 1,598 cases, or 34 per

cent. Rickets ranked second with 987 cases. Undernutrition in infants under 6 months of age was rare; almost without exception the undernourished infant over 6 months of age was found to belong to the families of the poorer classes; almost 90 per cent of the mothers of these infants nursed their babies during the first six months of life (this percentage was not nearly so high in the mothers of the well-to-do). The other group of undernutrition, that is in children from 1 to 4 years, belongs chiefly to the families of the well-to-do. The habit of eating between meals or of forced feedings is responsible for a large number of this group. Organic disease was found to play a minor part in this class. Chronic infections of the tonsils and adenoids was the cause of 13 per cent of the defects. These three causes make up almost 80 per cent of all the defects found in this group of children. Such things as diseases of the heart, lungs, skin and nervous system are rare when compared to the first three groups. Of the 4,700 children examined, 2,162 showed one or more defects; in 1,362 children the defects have been corrected. Besides this, hundreds of the mothers have been given feeding directions for infants and children. A great many other diseases or defects have been corrected through educational work among the parents and the return visits of many of these children to the clinics after the first trouble has been removed.

Intraperitoneal Use of Neoarsphenamine and Mercurosal in Congenital Syphilis

DR. JOSEPH YAMPOLSKY, Atlanta: Twenty patients with congenital syphilis received neoarsphenamine and mercurosal intraperitoneally. Only four of these presented a positive Wassermann reaction after treatment, but none showed any signs of congenital syphilis. These medications did not cause any discomfort, death, peritonitis or adhesions, as shown by the autopsies on rabbits and roentgen examination of the patients. The patients are alive and feel well. The method is simple, requiring only sterile instruments, and there need be no fear of doing any harm to the patient. Absorption is very rapid from the peritoneal cavity and the results are just as quick as when these medications are used intravenously.

The Increasing Importance of Undulant Fever

DR. EVERT A. BANCKER, JR., Atlanta: Three hundred and sixty-seven cases of undulant fever occurring in the United States during 1928 are recorded. Thirty-four of the thirty-nine cases of undulant fever occurring in Georgia during 1928 have been collected and correlated. The incidence of undulant fever is increasing in the United States, and it should therefore be made a reportable disease in all states. The majority of cases of undulant fever occurring in Georgia during 1928 were caused by *Brucella abortus*.

Spinal Anesthesia in Obstetrics

DR. LEWIS H. WRIGHT, Augusta: With spinal anesthesia the patient should be under the care of a trained anesthetist. It adds to the safety of the patient. The advantages of this form of anesthesia in obstetrics are many. The fact that the anesthetic does not stop the uterine contractions lessens the danger of postpartum hemorrhage. Because of the fact that some of the sensations are retained rough measures cannot be used. This is a great protection for the baby. The dangers of spinal anesthesia are not many but they are quite definite. Fortunately, if there are going to be any complications they almost always occur within the first fifteen minutes after the injection. Respiratory failure is the most dangerous complication. This rarely occurs with the present drugs and methods of injection. In obstetrics it is wellnigh impossible for it to occur if proper precautions are taken. With the proper technic and indications many of the untoward effects can be reduced to a minimum. It is not fool proof any more than are the other procedures in medicine.

The Epilepsies

DR. WILLIAM A. SMITH, Atlanta: In a study of 400 patients complaining of convulsive seizures hereditary factors were unimportant. Convulsions occurred in a parent in 0.75 per cent and in other relatives in 3 per cent. The total hereditary tainting was 13 per cent, but usually the etiology of the attacks could be ascribed to other factors. Mental deficiency was present in 16 per cent and mental disorders of organic type in 9.5 per cent. These could always be ascribed to an organic disease of the brain, responsible for the convulsions, with the exception of a few cases of obscure etiology. Males were affected twice as frequently as females. Convulsions beginning after the age of 25 years were due to the following factors, in the order of their frequency: brain tumor, brain injury, syphilis, arteriosclerosis and encephalitis. The most frequent causes of localized seizures, in the order of frequency, were: brain tumor, encephalitis, brain injury, birth injury and syphilis. About 74 per cent of the cases showed evidence of organic changes in the brain as follows: encephalitis, 14 per cent; birth injury, 13 per cent; brain injury, 13 per cent; brain tumor, 11.7 per cent; syphilis, 8.5 per cent; congenital brain disease, 2.7 per cent; cerebral arteriosclerosis, 2.2 per cent; hydrocephalus, 1.7 per cent; epidemic meningitis, 0.7 per cent; progressive cerebral degeneration, 0.7 per cent; brain abscess, 0.5, and tumor suspect, 4.5 per cent. The etiology was not definitely determined in 25.25 per cent of the cases. Many of these cases were seen only once and a variety of abnormal and obscure symptoms were found.

Nevi

DRS. JACK W. JONES and HERBERT S. ALDEN, Atlanta: In the treatment or removal of nevus, potential malignancy should be the outstanding consideration. The use of superficial caustics and the injection of caustics is condemned. Any treatment that irritates without thorough removal should not be used. A lesion that has been destroyed with electrodesiccation or electrocoagulation is rendered sterile by the treatment, and the only problem is to keep it in this condition and allow it to heal. We have adopted for the most part a method advocated by McFarland, viz., the use of 5 per cent gentian violet, dissolved in equal parts of alcohol and water, as a paint. If the lesion is dry on completion of treatment, this solution will form a coating and protection which does away with the necessity of a dressing. In more than sixteen months' use of this solution I have yet to see an infection, even with the lesion located in the axillae or groin. At the end of about seven days the crust will come off. It is again painted, and usually remains until the lesion is healed. Massage with any mild emolient after the lesion heals helps to reduce scarring. Boric acid ointment, although messy and somewhat slow in promoting healing, seems to have some action in reducing scar tissue formation. In rare instances scar tissue or small keloids will result, which usually regress under irradiation.

Our Poisonous Serpents

DR. T. E. OERTEL, Augusta: In the rural districts of the southeastern states of our country serpents are still plentiful, but out of a large number of species only a few are poisonous, while many are not only harmless but useful to the farmer and should not be killed. The nonpoisonous serpents are often beautiful and always interesting. Most of the harmless species feed on vermin and are in this way a distinct benefit to the agriculturist. I think one may safely say that all water snakes should be killed. They serve no useful purpose and while their food consists in part of frogs and the smaller reptiles, they destroy great numbers of fish. Among the harmless and useful species are the king snakes, black snakes, coachwhip-chicken snake, rat-snake, milk snake, bull snake, gopher snake and the spreading "adders," which are not adders at all in spite of the popular belief to the contrary and are entirely harmless. During the year 1928 thirty-one cases of snake bite from poisonous serpents in Georgia were reported. In Georgia there are three representatives from the family of rattlesnakes out of a total of nineteen species in the United States and Mexico. The characteristic appendage at the end of the tail is quite sufficient to distinguish these serpents from other pit vipers. The great diamond back rattlesnake (*Crotalus adamanteus*), which reaches a length of 7 feet or more, is found along our coastline but is not a hill snake. The somewhat smaller though formidable timber rattlesnake (*Crotalus horridus*) is more numerous and has a wide distribution. The great size of both of these serpents, their formidable fangs, which often are half an inch or more in length, and the huge dose of poison they may inject render them the most dreaded among our poisonous serpents. The third species is the ground rattlesnake (*Sistrurus miliarius*). Although this serpent is small, being only 2 feet in length

when fullgrown, it is capable of inflicting a wound that may be fatal in children. Adults usually recover from its bite even without treatment. The small size, the diminutive rattles, which are almost abortive, and the irregular, brown mottled markings on a grayish background readily distinguish this snake from the young of the other two species. The coral snakes differ materially from the pit vipers in that the poison fangs are small and fixed in the jaw and the snake literally bites its victim, holding on with a firm grasp and advancing its fangs with a chewing motion, so that several punctures are made and poison injected in each. In the United States there are two species of this genus. Only one of these, *Micrurus fluvius*, is found in the eastern states. It has quite a wide range, being found in all of the south Atlantic states from Virginia downward, in the Gulf states and in Texas.

Postoperative Pulmonary Atelectasis

DR. A. J. MOONEY, Statesboro: A thorough study of the postoperative complications and a systematic use of the x-rays will show a greater incidence of pulmonary atelectasis than is commonly supposed. A vast majority of the cases of so-called ether pneumonia will prove to be pulmonary atelectasis. The mechanics of the condition is the blocking of a bronchiole or bronchioles with mucus and the absorption of the air distal to the obstruction. More males seem to be affected than females, probably because females are costal breathers. There is no special age incidence, although very young children are seldom affected unless they are far below par physically. The prognosis is always good, practically all the patients recovering (mortality 0.6 per cent). As a preventive measure the avoidance of too tight an application of adhesive tape in abdominal dressings is recommended.

Cholecystitis

DR. T. C. DAVISON, Atlanta: A well taken history is all important in making a diagnosis of cholecystitis. In a case of so-called chronic indigestion with the classic symptoms, one usually finds that the patient is sensitive over the region of the gallbladder, the degree of sensitiveness depending on the individual patient and the severity of the disease. No patient with suspected cholecystitis has been fully examined until given the benefit of a careful roentgenographic study. For several years I have made it a practice to have sections made from the walls of gallbladders removed in my clinic, and a microscopic study of these sections shows that the lymph channels and other spaces in the subserosa are choked and filled with leukocytes and connective tissue cells. In my opinion, once a gallbladder is diseased it never fully recovers, and a diseased gallbladder is not an asset but a liability.

A New Mode of Artificial Insemination

DR. G. LOMBARD KELLY, Augusta: I used female guinea-pigs in the copulatory stage, with one exception, for the insemination experiments. In order to avoid unnecessary killing of animals, sperm was usually obtained from males killed for complement by the Wassermann laboratory, the animals being brought to the operating room to be killed. I used ether anesthesia and it is interesting to note that the ether absorbed by the blood did not have any untoward effect on the viability of the ova or spermatozoa in the tubes. In more recent work I have adopted local anesthesia with 1 to 2 per cent procaine as a routine, and I find that it works just as satisfactorily, on the whole, and never kills any animals, as ether occasionally does. All operative procedures were done with aseptic technic. At each operative site an incision about 1.5 cm. long was made and the ovary was exposed by extruding it through the slit in the peritoneal bursa. After the ovary was inspected to ascertain the number of ripe follicles present, it was dropped back into place and a hot sponge was laid on the wound. When this had been accomplished on both sides, the males were killed. As soon as the male had been bled (for complement), or if killed only for the experiment, as soon as it was dead, the abdomen was opened and the vasa deferentia exposed from the testicles to the prostate. Each vas was now caught at opposite extremities with a small hemostat and dissected free. One hemostat caught both the distal (prostate) ends, as they lay close together and could be excised with one snip of the scissors. Both vasa were now removed to the operating table and the hemostat at the distal end snipped off. With a pair of forceps the sperm was stripped out on a sterile, dry glass slide. Two or three large drops were usually obtained in this way. Each ovary was exposed again in turn, extruded from its bursa and smeared with sperm from the end of a scalpel. The bursa was next pulled back over the ovary and the latter replaced in the abdominal cavity. When sperm was obtained from males killed for complement, that from one male was used on one ovary and that from another was placed on the opposite side. Successful insemination on each side by this method would result in young born at the same time having different male parents. The incidence of successful impregnation is 66⅔ per cent. This compares favorably with natural insemination, which probably does not exceed 90 per cent. Our experiments with the rat were unsuccessful. Artificial insemination by way of the ovarian bursa in the guinea-pig can be accomplished in about two thirds of the trials, if females are selected during the first stage of estrus and a suitable technic is employed. Guinea-pig spermatozoa are capable of fertilizing the ova without the influence of the secretions of any accessory sexual glands, such as the seminal vesicles or prostate. The young born by this method are normal in every way and thrive just as do the progeny of natural insemination. It is possible by this method to produce young born at the same time from one another but with different male parents. This method opens up a new pathway of investigation into the behavior of the spermatozoon in relation to the ovum and the uterine tube. Results of several attempts at artificial insemination in stage 3 of estrus seem to indicate that the spermatozoon will not follow the ovum down the uterine tube or that the latter cannot be fertilized that long after it leaves the ovary.

Glaucoma from the Point of View of the General Practitioner

DR. F. PHINIZY CALHOUN, Atlanta: It is not generally appreciated that from one fourth to one third of all blindness after 45 is due to glaucoma. Unless glaucoma is recognized and unless immediate medical or operative treatment is given, sight is hopelessly lost. I have studied sixty-four cases of glaucoma. A vascular disease was present in 95 per cent of the cases; syphilis was present in 15 per cent of the vascular cases; a nephritis was present in 40 per cent of the vascular cases and in 37 per cent of all sixty-four cases; an abnormally high diastolic pressure was present in 57 per cent; an abnormally high systolic pressure was present in 42 per cent, and a dilatation of the heart or aorta was found in 60 per cent. I should like to leave one thought with the general practitioner who frequently first sees glaucoma—that three senses be used when visiting a patient with symptoms pointing to glaucoma: (1) hearing, to listen to the patient's complaint; (2) sight, to observe the eye and to detect the change incident to glaucoma, and (3) touch, to estimate the tension of the eye. The employment of these senses will save many eyes.

The Use of Quinidine in the Treatment of Heart Disease

DR. THOMAS J. CHARLTON, Savannah: One adverse feature in quinidine treatment, and this is especially true in auricular fibrillation, is that no definite prognosis can be made as to the outcome of the therapy. The character of the cardiac lesion, the degree of decompensation, the duration of the disordered mechanism, and the age of the patient are not essentially related to failure or success with quinidine. Before treatment is started it is important that the patient be thoroughly digitalized, with complete rest in bed and other measures, if necessary, to bring the heart to the best possible degree of compensation. When the patient is in the best condition that it is possible to secure, treatment with digitalis is stopped and the quinidine is started. The first dose is a trial dose and 0.2 Gm. of quinidine sulphate is given. If no untoward symptoms develop the dose is increased to 0.4 Gm., given every four hours day and night. There is no cumulative action to quinidine, so that the continuous administration of the drug is important. During this period the patient has to be examined frequently because no idea can be formed as to when the rhythm will become regular from the amount of the drug taken. Quinidine has a very definite place in the treatment of cardiac conditions, but the pathologic changes of these conditions should be understood. The dangers of quinidine therapy, paralysis of respiration and embolism, are slight.

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American J. Diseases of Children, Chicago

37: 893-1124 (May) 1929

Transmission of Intracranial Pressure in Hydrocephalus in Infancy. K. D. Blackfan, B. Crothers and R. N. Ganz, Boston.—p. 893.
*Tubercle Bacilli in Small Children with Pulmonary Tuberculosis. V. Poulsen, K. A. Jensen and E. Husted, Copenhagen, Denmark.—p. 900.
*Prognosis of Tuberculosis in Infants. B. M. Gasul, Chicago.—p. 909.
*Percutaneous Tuberculin Reaction. B. R. Lovett, Chicago.—p. 918.
*Thyrotoxicosis in Childhood. S. Ginsburg, New York.—p. 923.
*Tracheobronchial Diphtheria: Twenty-Four Cases. N. T. Welford, Chicago.—p. 944.
Relationship Between Fibrin Content and Sedimentation Index in Orthopedic Cases. E. M. Greisheimer, M. Warwick and M. Walton, Minneapolis.—p. 953.
*Immunization with Modified Toxin. A. C. Silverman, Syracuse, N. Y. —p. 957.
*Animal Serum in Measles. A. C. Silverman, Syracuse, N. Y.—p. 963.
Ultraviolet Component of Sunlight of Portland, Ore. I. A. Manville, Portland, Ore.—p. 972.
Experimental Study of Chronic Fatigue. M. Seham and G. Seham, Minneapolis.—p. 997.
*Intraperitoneal Transfusion of Blood. M. L. Floyd, Iowa City.—p. 1007.
Origin and Fate of Iso-Agglutinins in Blood from Umbilical Cord. J. McK. Mitchell, Bryn Mawr, Pa.—p. 1008.
*Bacteriology of Dry Milk. G. C. Supplee and E. M. Bixby, Bainbridge, N. Y.—p. 1016.
Paroxysmal Hemoglobinuria Caused by Chilling: Case. A. M. Puris, Chicago.—p. 1027.
*Degeneration of Cerebral Cortex in Course of Pertussis: Case. F. R. Ford, Baltimore.—p. 1046.
*Capillary Bronchitis. R. E. Nutting, Rochester, Minn.—p. 1051.
Infant Behavior in Relation to Pediatrics. A. Gesell, New Haven, Conn. —p. 1055.
Robert Pemell, ?-1653. J. Ruhräh, Baltimore.—p. 1076.

Tubercle Bacilli in Small Children with Pulmonary Tuberculosis.—Poulsen et al examined the gastric lavage from fifteen children by Meunier's method. In addition they made cultures from the sediment on Petroff's medium and inoculated guinea-pigs with the sediment. The first group comprised six children, one of whom was 2 years old and the other five from 7 to 10 months old. All the children gave positive tuberculin reactions, and all presented stethoscopic signs of changes in the lungs, infiltration and râles. One child was too sick for roentgen examination. In the other five cases, the roentgenograms showed more or less extensive processes of infiltration in the lungs. Microscopic examination of the sediment showed tubercle bacilli in four cases. Culture on Petroff's medium produced tubercle bacilli in all six cases. Inoculation of the sediment from five children into guinea-pigs produced tuberculous lesions, while that from the sixth child caused death a few days after inoculation into the animal. In the six children the diagnosis of pulmonary tuberculosis could be made with almost absolute certainty, even without the demonstration of bacilli. The second group comprised five children, one being 1 year old, the others from 5 to 9 months. All five children gave a positive tuberculin reaction; in none of them could pulmonary changes be determined on auscultation. Roentgen examination, on the other hand, revealed infiltrations in the lungs in all five cases. In only one of these cases could tubercle bacilli be demonstrated under the microscope; but cultivation on Petroff's medium gave growth in four cases, and guinea-pigs inoculated with the sediment showed tuberculous lesions on autopsy in all five instances. The third group comprised four patients, from 1 to 8 years old. All four gave a positive tuberculin reaction. Physical examination showed normal conditions in three of them, and roentgen examination did not show any sign of infiltration in the lungs. On the other hand, in the fourth case, auscultation as well as roentgen examination showed definite signs of infiltration in the right lung. Microscopic examination as well as the cultures and the animal inoculations gave negative results in all four cases, although the tests were repeated three times. It appears as if this method is efficient for demonstrating bacilli in cases in which success is rarely obtained by other methods.

Prognosis of Tuberculosis in Infants.—Four hundred and four tuberculous infants, varying in age from 4 months to 2½ years, were followed up by Gasul for a period of from one to eight years. When first examined, 221 of the 404 showed only a positive tuberculin reaction; 121 showed hilum tuberculosis; fifteen showed scrofuloderma; five showed papulonecrotic tuberculids; eleven showed a spina ventosa; six showed a tuberculous pleuritis; eight showed an epituberculosis, and two showed an erythema nodosum. There were fifteen deaths, a mortality rate of 3.71 per cent. Twenty-nine of the 404 infants were infected during the first six months of life. There were five deaths in the twenty-nine cases, or a mortality rate of 17.2 per cent. Seventy-three of the 404 infants were infected during the first six months of life. There were five deaths in the twenty-nine cases, or a mortality rate of 17.2 per cent. Seventy-three of the 404 infants became infected with tuberculosis during the second half of the first year of life. There were five deaths, or a mortality rate of 6.84 per cent. Seventy-seven of the 404 infants became infected with tuberculosis during the first half of the second year of life. There were five deaths, or a mortality rate of 6.49 per cent. None of the infants who had been infected after the first half of the second year of life died. Gasul says that an infant with a positive tuberculin reaction or even with a definitely recognizable lesion (with the exception of tuberculous meningitis, miliary tuberculous and ulcerocaseous pulmonary tuberculosis) should not be given a poor prognosis.

Percutaneous Tuberculin Reaction.—Lovett describes the modified Moro test performed at the Children's Clinic in Graz: The skin over the sternum is rubbed with ether until hyperemia occurs. A piece of the concentrated old tuberculin, the size of a pinhead, is vigorously rubbed in with the finger-tips. The result is read at the end of forty-eight hours. Usually the reaction appears within twenty-four hours, but occasionally it is delayed for three or four days, thus corresponding to the torpid reaction described by Pirquet.

Thyrotoxicosis in Childhood.—Ginsburg asserts that radium therapy efficiently used offers a safe, dependable, bloodless method that can yield as brilliant results as surgical operation, if not more brilliant, without its attendant mortality.

Tracheobronchial Diphtheria.—Twenty-four cases of tracheobronchial diphtheria are reported by Welford with the clinical and pathologic observations. The most distinctive clinical features of the condition were severe toxemia, marked intercostal and epigastric reactions, retention of voice, suppression of breath sounds and hyperresonance. The differential diagnosis from laryngeal diphtheria, foreign body, asthma, bronchopneumonia and edema of the larynx is outlined. Autopsies performed in twenty-two cases showed atelectasis caused by membranous obstruction to be a frequent occurrence. Large doses of diphtheria antitoxin are desirable. Bronchoscopy with aspiration is indicated if performed before the onset of myocardial failure.

Immunization with Modified Toxin.—Of a group of seventeen children to whom Silverman gave combined scarlet fever and diphtheria ricinoleated vaccine and tested with the Schick and Dick tests before and after the injections, only one gave a negative reaction to both tests. In six others, the Schick reaction alone was negative, and in one, the Dick reaction alone was negative. One child developed scarlet fever about a year after the three injections; his reaction to the Dick test had become fainter and less infiltrated but not smaller in area; his reaction to the Schick test had become negative. When seven children who had given positive reactions to the Schick tests were given toxoid, six were found to have negative reactions after nine months. There would seem, however, to be little advantage in the toxoid over the 0.1 L + toxin-antitoxin mixture, since the latter is reported to have little or no effect on subsequent injections of serum, and the evidence to the contrary is not supported by controls or by sensitivity tests prior to the administration of toxin-antitoxin.

Animal Serum in Measles.—Silverman used both the Ferry and the Degkwitz serum, but neither showed any results of value; several children developed severe serum reactions, so severe perhaps as to influence the condition unfavorably, and in two, the complication of bronchopneumonia occurred.

Intraperitoneal Transfusion of Blood.—Floyd calls attention to the fact that blood absorption from the peritoneal cavity is sometimes an uncertain process, occasionally being too slow to be of any therapeutic value. Certain sick infants have an impaired capacity to absorb blood from the peritoneal cavity. Usually such infants are the ones who need and who would benefit most by transfusion. Because of uncertain absorption by other routes, transfusions in the case of patients who are gravely ill should be given intravenously. Exposure of the vein is rarely necessary.

Bacteriology of Dry Milk.—Supplee and Bixby found that the dry milk made by the Just roller process rarely has a bacterial content of more than 1,000 per gram. A slight increase in the bacterial content may take place from the time the dry milk leaves the drying cylinders until it is packed. This degree of recontamination was found to be insignificant. Hemolyzing bacteria, including rods, staphylococci and micrococci, many of which are shown to be survivors of the natural fluid milk flora, were found in approximately the same proportions in the milk powders made by the Just and by the spray processes. Hemolytic streptococci or green-producing streptococci were not found in the samples of powder made by either process. The total bacterial count and the total count of hemolyzing colonies were found to be much higher in the milk powder prepared by the spray process than in that made by the Just process. Hemolyzing streptococci, including *S. epidemicus*, enterococcus, a green-producing streptococcus, and the Morgan dysentery bacillus, all were destroyed by the Just milk drying process.

Degeneration of Cerebral Cortex in Pertussis.—The case history of a child, aged 20 months, who developed cerebral diplegia after pertussis is presented by Ford. This was found to be due to a great loss of cortical nerve cells unrelated to vascular disturbances or inflammatory processes. This condition was first described by Husler and Spatz and probably represents the anatomic basis of many of the nervous complications of pertussis. The lesions are quite different from those which have been found in the nervous system following measles and vaccinia.

Capillary Bronchitis.—In the case described by Nutting, life was prolonged twenty-six days by the continuous administration of oxygen. An unusual healing process took place; many of the bronchioles were plugged by fibrous tissue to the point of occlusion. Death apparently was due to asphyxia as the result of this remarkable attempt at healing.

American J. Obstet. & Gynec., St. Louis

17: 603-760 (May) 1929

Decidual Formation on Peritoneal Surface of Gravid Uterus. J. Hofbauer, New York.—p. 603.
Cholecystography as Aid in Determining Gallbladder Stasis in Pregnancy. S. J. Fogelson, Chicago.—p. 613.
*Statistical and Clinical Study of Sterility: 1,000 Cases. D. Macomber, Boston.—p. 621.
Reactions of Peritoneum. J. W. Kennedy, Philadelphia.—p. 636.
*Mercurochrome as Vaginal Antiseptic Before Cesarean Section: 338 Cases. H. W. Mayes, New York.—p. 645.
Neurologic Symptoms in Pregnant Woman. C. W. Burr, Philadelphia. —p. 653.
Modern Conceptions of Renal Derangements in Pregnancy. G. Kolischer, Chicago.—p. 661.
Survey of Cesarean Section at Methodist Episcopal Maternity. O. P. Humpstone, New York.—p. 663.
*Procidentia: 683 Cases. G. V. S. Smith, W. P. Graves and F. A. Pemberton, Boston.—p. 669.
*Diabetic Coma Complicating Pregnancy. M. S. Merriam, New York. —p. 684.

Statistical and Clinical Study of Sterility.—Among the 1,070 unselected cases analyzed by Macomber there were 208 full-term pregnancies, twenty-eight miscarriages and eleven blighted ova, making a total of 247 pregnancies, or 23.1 per cent. For full-term pregnancies the percentage is 19.4.

Mercurochrome as Vaginal Antiseptic Before Cesarean Section.—Two series of cesarean sections are analyzed by Mayes: one in which mercurochrome was employed as a vaginal antiseptic and the other in which this procedure was omitted. In 218 cesarean sections with mercurochrome, the morbidity was 42.2 per cent, averaging 2.5 days per patient. The mortality was 3.2 per cent and there was only one death from sepsis. In 120 cesarean sections without mercurochrome, the morbidity was 57.6 per cent, averaging 3.8 days per patient. The mortality was 6.7 per cent and there were four deaths from sepsis. In the group with mercurochrome, five of the seven deaths were due to causes for which the operation itself could not be blamed. In the nonmercurochrome group, only two of the eight deaths were due to causes outside the operation. With mercurochrome, the morbidity was 4.7 per cent greater from primary than from secondary cesarean sections. Without mercurochrome, it was 21.3 per cent greater from secondary sections. The parity of the mother had very little effect on morbidity when mercurochrome was used. Without mercurochrome, the morbidity was 20.4 per cent greater in primiparas. Without mercurochrome, the morbidity following vaginal examination was 100 per cent and there was one septic death. When mercurochrome was used, the morbidity was 18.4 per cent greater following rectal than after vaginal examination. In the mercurochrome series, there were no deaths from infection in the forty-five patients with ruptured membranes. In the twenty-six cases without mercurochrome, there were two septic deaths. Without mercurochrome, the morbidity rose rapidly when labor lasted more than ten hours. When mercurochrome was used, the morbidity did not begin to rise until labor had lasted fifteen hours. When labor lasted more than fifteen hours, the morbidity without mercurochrome was 85 per cent. With mercurochrome, it was 55.9 per cent. When mercurochrome was used, the abdominal wound healed by primary union in all but 8.2 per cent of the cases. Without mercurochrome, 12.5 per cent of the wounds were infected. Mayes believes that the use of mercurochrome as a vaginal antiseptic during labor adds greatly to the mother's safety in the event of cesarean section. When mercurochrome is used, low cervical cesarean section has little or no advantage over the classic operation.

Procidentia.—Six hundred and eighty-three cases of marked uterine prolapse, procidentia, have been studied by Smith et al. from many angles, especial emphasis being laid on the most effective type of operative treatment as indicated by long time results. A study of end-results on the basis of 84.1 per cent of follow-ups shows that in those cases in which the incomplete plastic operation and abdominal suspension were performed about 70 per cent were anatomic cures and about 75 per cent were symptomatic cures. When the complete plastic operation and abdominal suspension were performed about 80 per cent resulted in anatomic cures, while about 84 per cent were symptomatic cures. When complete operations were performed no marked difference in results was obtained, whether simple Olshausen suspension, ventrofixation, simple supravaginal hysterectomy, or hysterectomy with fixation of the cervical stump was done, although the results were somewhat better following hysterectomy with cervical stump suspension. Complete recurrences occurred in from 3 to 6 per cent of the cases; partial recurrences in about 15 per cent. In cases in which two, three or even four operations were performed there was 69.2 per cent of final cures. The operative mortality was 2.28 per cent. In this group the patients were, on the average, from eight to ten years older than the average age for the whole series. Fourteen patients became pregnant from one to three times after operation. These pregnancies resulted in twelve babies, three miscarriages and four abortions. Pregnancy after operation resulted in 58.3 per cent of complete recurrences in this small group, whereas two patients underwent cesarean section with a successful outcome.

Diabetic Coma Complicating Pregnancy.—Merriam asserts that his is the sixth case to be placed on record. The use of insulin results in marked improvement immediately after delivery similar to that noted in the toxemias of pregnancy. However, the death of the fetus before delivery makes the prognosis much more grave because while the fetus is alive the fetal pancreas helps the mother in the carbohydrate metabolism. Operative delivery during diabetic coma would seem to have as serious a prognosis as in eclampsia.

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American J. Surgery, New York

6: 569-692 (May) 1929

What Has Happened to Unobstructed Bowel That Fails to Transport Fluids and Gas? W. C. Alvarez and K. Hosoi, Rochester, Minn.—p. 569.
*Phytobezoar Associated with Gastric Ulcer: Case. D. C. Balfour and R. W. Good, Rochester, Minn.—p. 579.
Osseous Fusion in Ankle Joint. W. C. Campbell, Memphis, Tenn.—p. 588.
Quarantine in Abdominal Surgery. R. C. Coffey, Portland, Ore.—p. 593.
Osteitis Fibrosa Cystica: Case. W. B. Coley and B. L. Coley, New York.—p. 602.
*Reaction to Iodine of Goiters from Goiter Area. F. A. Coller and E. B. Potter, Ann Arbor, Mich.—p. 609.
Interdependence of Thyroid, Suprarenals and Nervous System. G. W. Crile, Cleveland.—p. 616.
Pyloric Obstruction. J. B. Deaver, Philadelphia.—p. 621.
Valvular Thoracotomy for Empyema. C. L. Gibson, New York.—p. 625.
Thyroidectomy Technic. D. Guthrie, Sayre, Pa.—p. 631.
Field of Electrosurgery. H. A. Kelly, Baltimore.—p. 634.
Ischemic Paralysis. D. Lewis, Baltimore.—p. 638.
Susceptibility to Cancer. W. J. Mayo, Rochester, Minn.—p. 644.
Fifteen Years with Radium in Treatment of Fibroids, Nonmalignant Bleeding and Dysmenorrhea. J. O. Polak, New York.—p. 648.
Subacute Yellow Atrophy: Two Cases. A. O. Whipple, New York.—p. 655.
Lipoma of Stomach: Case. R. B. White and E. S. Judd, Rochester, Minn.—p. 662.
Malignant Tumors of Bladder and Prostate. H. H. Young, Baltimore.—p. 667.

Phytobezoar Associated with Gastric Ulcer.—Balfour and Good report a case of persimmon bezoar associated with gastric ulcer. Fourteen similar cases from the literature are briefly reviewed.

Reaction to Iodine of Goiters from Goiter Area.—A comparison of the reaction to iodine of exophthalmic goiter from a goiter area and from a nongoiter area made by Coller and Potter shows that, in general, cases from the goiter area do not show as much improvement and react more slowly. In 11.7 per cent of cases of exophthalmic goiters no drop in the basal metabolic rate occurred with iodine. Adenomatous goiters with hyperthyroidism do not react to similar amounts of iodine in a manner enough like that of exophthalmic goiter to warrant the assumption on this ground alone that they are the same disease. In 46 per cent of the adenomatous goiters with hyperthyroidism, a favorable reaction was not obtained. The use of iodine as a preoperative measure in all cases of adenomatous goiter with hyperthyroidism and of exophthalmic goiter is advocated.

American J. Tropical Medicine, Baltimore

9: 143-221 (May) 1929

Lymphangitis and Filariasis in Porto Rico: Fifty-Seven Cases. F. W. O'Connor, New York, and G. R. Burke, San Juan, P. R.—p. 143.
Creeping Eruption. J. L. Kirby-Smith, Jacksonville, Fla., W. E. Dove, Dallas, Texas, and G. F. White, Washington, D. C.—p. 179.
Viability of Hookworm Eggs and Larvae in Pit Latrines. G. Dikmans, Mayaguez, P. R.—p. 195.

Archives of Ophthalmology, Chicago

1: 551-668 (May) 1929

Angioid Streaks of Fundus Oculi. W. L. Hughes, New York.—p. 551.
Peripheral Iridectomy in Extraction of Cataract. E. M. Blake, New Haven, Conn.—p. 559.
Mucocele of Posterior Ethmoid Sinus with Orbital Symptoms: Case. A. Knapp, New York.—p. 566.
New Intracapsular Operation for Cataract Extraction. C. B. Meding, New York.—p. 569.
Slit Lamp Ophthalmoscopy. J. S. Friedenwald, Baltimore.—p. 575.
Radium Therapy in Diseases of Eye and Adnexa. G. A. Robinson, New York.—p. 583.
Kruckenberg's Spindle, a Fusiform Pigmentation of Cornea: Case. B. Friedman, New York.—p. 590.
Retrolental Space. L. W. Morsman, Hibbing, Minn.—p. 594.
Metastatic Carcinoma of Ciliary Body: Case. A. Knapp, New York.—p. 604.
Extensive Bilateral Retinal Detachment in Eclampsia with Complete Reattachment: Two Cases. W. E. Fry, Philadelphia.—p. 609.
Aqueous Humor. A. M. Yudkin, New Haven, Conn.—p. 615.

Archives of Surgery, Chicago

18: 2047-2236 (May) 1929

*Ludwig's Angina. A. P. C. Ashhurst, Philadelphia.—p. 2047.
*Tumors and Tumor-Like Lesions of Breast. A. R. Kilgore, San Francisco.—p. 2079.
*Periosteal Lymphatics. E. Campbell, Baltimore.—p. 2099.
Carcinoma of Hand: Twenty-Five Cases. M. L. Mason, Chicago.—p. 2107.
*Enterostomy in Treatment of General Peritonitis. T. G. Orr and R. L. Haden, Kansas City, Kan.—p. 2159.
*Postoperative Pneumonia. M. K. Smith and P. C. Morton, New York.—p. 2167.
*Average Treatment of Cancer: II. Report of Study of Deaths from Cancer in Detroit During Six Months from May 15 to Nov. 15, 1927. H. C. Saltzstein and D. J. Sandweiss, Detroit.—p. 2176.
Vasodepressor Substances in Liver. I. S. Ravdin, Philadelphia.—p. 2191.
Experimental Peritonitis and Peritoneal Immunity. S. F. Herrmann, Rochester, Minn.—p. 2202.
Review of Urologic Surgery. . A. J. Scholl and A. A. Kutzmann, Los Angeles, E. S. Judd, Rochester, Minn., L. D. Keyser, Roanoke, Va., G. S. Foulds, Toronto, and J. Verbrugge, Antwerp, Belgium.—p. 2216.

Ludwig's Angina.—Eighteen cases of Ludwig's angina are reported by Ashhurst, with a mortality of 27.7 per cent. By contrast four cases are reported which superficially resembled but which were not really cases of Ludwig's angina. The predominating rôle of dental infection as a cause is emphasized (from 65 to 83 per cent of cases). Anatomic studies are reported demonstrating the routes by which the infection spreads. A median submental incision and an incision in one or in both submaxillary regions, extending in all cases into the cavity of the mouth, are described as valuable for drainage. The cause of death usually is sepsis.

Tumors and Tumor-Like Lesions of Breast.—Of the 1,521 lesions of the breast (not including chronic cystic mastitis and acute inflammatory mastitis) on which Kilgore's study is based, ninety-six, or approximately 6.3 per cent, were first observed by the patient in connection with pregnancy or lactation. Eighty (or 83 per cent) were cancer, galactocele, tuberculosis or encapsulated adenoma, in the order of frequency named. During breast inactivity, the order of frequency was cancer, chronic cystic mastitis and encapsulated adenoma. The stage of pregnancy or lactation at which a tumor is first observed is of little significance. Cancer arises as frequently in the early months, and even in the early weeks of lactation when mastitis is common and confusing, as at any other stage. The prognosis of cancer in connection with pregnancy and lactation is anything but hopeless. Seventeen per cent of unselected patients traced were well from four and one-half to twenty-one years after operation. Five of seven patients without axillary metastases at the time of operation were among the groups of patients who were reported well. The prognosis of tuberculosis of the breast arising during lactation, as far as shown by the end-results in this small series, is good.

Periosteal Lymphatics.—A definite lymph plexus was found by Campbell in the periosteum and perichondreum at the costochondral junctions in certain animals. This plexus exists largely in the outer layer of periosteum. The plexus is drained by valvular vessels accompanying the blood vessels. Within the plexus there are few, if any valves, the vessels being freely communicating. Lymphatics are thought to have been traced down to the epiphyseal line. Lymph vessels could not surely be traced from the periosteum into the cortex.

Enterostomy in Treatment of General Peritonitis.—Orr and Haden have treated five patients who had general peritonitis with enterostomy. These cases represent the acute general diffuse type of peritonitis and the type designated as acute inflammatory obstruction of the ileum or peritonitis of the lower part of the abdomen. The origin of the peritonitis in all cases was acute appendicitis. Three of the patients died. The authors conclude that sufficient evidence has not been presented to justify the belief that the cause of death in general peritonitis is intestinal obstruction alone. Enterostomy is of no value in the treatment of dogs in which fulminating general peritonitis has been produced. It is probably of doubtful value in such cases in man. In selected cases of peritonitis of the lower part of the abdomen, enterostomy is life saving. In doubtful cases of peritonitis, enterostomy should be used. If proper technic is used, it can do no harm and may do much good. No treatment for peritonitis should be given to the exclusion of large quantities of a saline solution to relieve the dehydration and hypochloremia.

Postoperative Pneumonia.—Among 10,835 operations performed in the general surgical services, Smith and Morton report that pneumonia occurred in eighty-seven cases, an incidence of 0.8 per cent. Among the eighty-seven cases were fifty-one deaths, a mortality of 59 per cent and a mortality by case of 0.5 per cent. If the cases in which the pneumonia seemed only a secondary cause of death are excluded, there were twenty-two fatalities among eighty-two cases in a ten year period, a mortality of 27 per cent.

Average Treatment of Cancer.—In a study of deaths from cancer occurring during six months, Saltzstein and Sandweiss feel that 3.6 per cent of the patients certified as having died of cancer had died of some other disease. In another 7.4 per cent, the site of the primary organ involved was changed. Twice as many persons were operated on for cancer of the breast as died of the disease. Seventeen of seventy-five patients who died of cancer of the breast (22.6 per cent) were not operated on. The average duration of symptoms of cancer of the breast before operation was 9.4 months. In fifty-eight operations in patients with cancer of the breast, the average postoperative life of those who died was 29.5 months. Five lived more than eight years after operation, but 82.7 per cent had recurrence within two years. The average total duration of illness in eighty-six untreated patients with cancer of the stomach was 13.9 months. The total duration of illness of twenty patients who had palliative operations (gastroenterostomy and exploratory laparotomy, gastrostomy) was 13.3 months. The total duration of illness of seven who had radical resection (dying subsequently) was 20.4 months. In 105 patients with cancer of the stomach, the average duration of symptoms before diagnosis was 11.4 months. In 18 per cent of the cases of cancer of the stomach the onset occurred after previous indigestion. The remainder started as suddenly appearing indigestion in a middle aged person otherwise in good health. Twenty of 100 patients with carcinomas of the cervix did not receive irradiation or radical surgical treatment. Of seventy-one patients with cancer of the cervix who died, the average length of life after operation or irradiation was approximately fourteen months. Forty-three per cent of these were not free from symptoms following treatment, and an additional 11 per cent had doubtful freedom. In two years 85.9 per cent had died, and in 94.5 per cent the growth had recurred.

Arkansas M. Soc. Journal, Little Rock

25: 213-233 (May) 1929

Syphilis of Central Nervous System in Infancy and Childhood. I. A. Abt, Chicago.—p. 213.
Rheumatic Arthritis. R. McE. Schauffler, Kansas City, Mo.—p. 219.

Colorado Medicine, Denver

26: 123-154 (May) 1929

Autumn Type of Diarrhea Among Infants in Colorado. J. W. Amesse, Denver.—p. 125.
Why Certain Patients with Appendicitis Fail to Get Well. J. N. Hall, Denver.—p. 129.
Riedel's Chronic Thyroiditis: Two Cases. G. B. Kent, Denver.—p. 132.
Statistical Survey of Patients from Weld County Treated at Colorado Psychopathic Hospital. L. F. Woolley, Denver.—p. 140.
Variable Significance of Urinary Sugar. C. F. Kemper, Denver.—p. 150.

Delaware State M. Journal, Wilmington

1: 73-90 (May) 1929

Precancerous Lesions of Oral Cavity. J. C. Bloodgood, Baltimore.—p. 73.
Carcinoma of Cervix. R. C. Beebe, Lewes.—p. 81.

Florida M. Assoc. Journal, Jacksonville

15: 537-570 (May) 1929

Perfected Methods in Operation for Bad Risk Goiter Patient. W. D. Haggard, Nashville, Tenn.—p. 537.
Hypothyroidism: Low Respiratory Metabolic Rate. T. Z. Cason, Jacksonville.—p. 542.
Chronic Endocervicitis. H. A. Day, Orlando.—p. 547.
Intra-Uterine Injection of Lipiodol as Diagnostic Aid in Gynecology. W. M. Rowlett, Tampa.—p. 551.
Nutritional Needs to Third Year. G. Whitford, Ozona.—p. 555.

Indiana State M. Assoc. Journal, Fort Wayne

22: 179-226 (May 15) 1929

Surgical Lesions of Kidney. V. C. Hunt, Rochester, Minn.—p. 179.
Acute Surgical Mastoiditis Following Fracture of Skull. C. H. McCaskey, Indianapolis.—p. 183.
Contraception. W. N. Wishard, Sr., Indianapolis.—p. 187.
Urinary Incontinence. C. B. Huggins, Chicago.—p. 190.
Vaccine and Allied Therapy. H. M. Banks and I. Anderson, Indianapolis.—p. 192.
Gonorrheal Infections of Internal Female Genitalia. D. A. Bickel, South Bend.—p. 194.

Johns Hopkins Hospital Bulletin, Baltimore

44: 273-426 (May) 1929

Rôle of Allergy, Immunity and Other Factors in Pathogenesis of Human Tuberculosis. A. R. Rich and H. A. McCordock, Baltimore.—p. 273.

Journal of Cancer Research, New York

13: 1-102 (March) 1929

*Age Incidence of Tumors in Mice and Inheritance. L. L. Tureen and L. Loeb, St. Louis.—p. 1.
Skin Lesions Among Tar Workers. H. B. Wood, Harrisburg, Pa.—p. 54.
*Agglutination Phenomena in Cancer. N. Waterman and L. de Kromme, Amsterdam, Holland.—p. 60.
Suggestive Findings Revealed at Autopsy in Patients Treated by Radiation. A. A. Thibaudeau, New York.—p. 66.
*Critical Survey of Epithelial Tumors of Appendix. A. A. Thibaudeau and E. M. Burke, New York.—p. 73.
Relation of Wavelength to Death Rate of Drosophila Eggs. C. Packard, New York.—p. 87.
Paraffin Not Productive of Cancer. H. B. Wood, Harrisburg, Pa.—p. 97.

Age Incidence of Tumors in Mice and Inheritance.—Earlier investigations are confirmed by Tureen and Loeb. Tumor rate and tumor age incidence are hereditarily determined. However, these hereditary factors are active only if they are associated with other factors, especially the internal secretion of the ovary. There is, in general, a definite relationship between the tumor rate and the age at which tumors occur. In strains with a high tumor incidence, tumors appear, in the large majority of cases, at an early age; in strains with a low tumor rate, tumors appear relatively late in life; in mice with an intermediate tumor rate, the tumor age incidence is usually intermediate. However, there is superimposed on this relation another relation, which caused the age incidence of tumors to be characteristic of a certain strain, independent of tumor rate. The factors which determine tumor rate are distinct from those which determine tumor age. Both these factors are, in general, intermediate between those of both parents, but they may approach very closely the tumor rate and tumor age of one of the parents. Again tumor rate and tumor age may be influenced unequally by the parent strains and may therefore be inherited independently of each other in hybrids. In general, the tumor age curve shows a typical shape. After a maximum has been reached at a certain period of life, a decline sets in as age advances. This fact indicates that antagonistic conditions are associated with increasing age, one favoring and the other inhibiting the development of tumors. It may be assumed that, with increasing age, the stimuli leading to cancerous transformation can act with increasing frequency and intensity, and that possibly fibrous changes, occurring late in life, may likewise favor this change; on the other hand, the concomitant decrease in metabolic and other activity is unfavorable to growth processes.

Agglutination Phenomena in Cancer.—In the course of investigations into the cytolysis of cancer cells by different serums and organ extracts and incidentally by a new technical procedure, a series of agglutination phenomena were observed by Waterman and de Kromme.

Epithelial Tumors of Appendix.—In a study of 3,746 appendixes, Thibaudeau and Burke found nineteen epithelial tumors in the appendix and adjacent small bowel. Of these twelve were of the carcinoid type. In the cases of carcinoid tumors in which the history has been available, no recurrences have been reported. The carcinoid tumors do not show any definite connection with the epithelium of the mucous membrane. In this series was one case of primary adenocarcinoma of the appendix. The review would indicate that pathologic conditions in the appendix are much more common in the female.

Journal of Experimental Medicine, Baltimore

49: 899-1021 (June 1) 1929

*Relation of Varicella to Herpes Zoster: I. Statistical Observations. T. M. Rivers and L. A. Eldridge, Jr., Baltimore.—p. 899.
*Id.: II. Clinical and Experimental Observations. T. M. Rivers and L. A. Eldridge, Jr., Baltimore.—p. 907.
Immunologic Reactions with Tobacco Mosaic Virus. H. A. Purdy, New York.—p. 919.
*Relation of Chromatin to Hemoglobin and Bilirubin. H. H. Riecker, Ann Arbor, Mich.—p. 937.
Experimental Dehydration: Chemical Changes in Blood of Dog Contrasted with Those Following Obstruction of Cardiac End of Stomach. R. L. Haden and T. G. Orr, Kansas City, Kan.—p. 945.
Chemical Findings in Blood of Dog After Closed Loop Obstruction of Jejunum. R. L. Haden and T. G. Orr, Kansas City, Kan.—p. 955.
*Intradermal Versus Subcutaneous Immunization of Monkeys Against Poliomyelitis. F. W. Stewart and C. P. Rhoads, Baltimore.—p. 959.
South American Yellow Fever: I. Strains of Virus in Use at Yellow Fever Laboratory in Bahia, Brazil. N. C. Davis and A. W. Burke, New York.—p. 975.

*Id.: II. Immunity of Recovered Monkeys to African Virus. N. C. Davis, New York.—p. 985.
*Etiology of Oroya Fever: XIV. Insect Vectors of Carrion's Disease. H. Noguchi, R. C. Shannon, E. B. Tilden and J. R. Tyler, New York. —p. 993.

Relation of Varicella to Herpes Zoster.—The statistical observations reported by Rivers and Eldridge are further evidence in favor of the idea that the majority of cases of herpes zoster are not caused by the virus of varicella.

Id.: Clinical and Experimental Observations. — The results of experiments and clinical observations made by Rivers and Eldridge as to the identity of the viruses of varicella and herpes zoster indicate that the etiologic agents concerned with these two diseases are in the majority of instances not identical.

Relation of Chromatin to Hemoglobin and Bilirubin.— The bone marrow of dogs was studied by Riecker first, during a period of rapid blood regeneration and second, during a period of relative iron starvation, while the peripheral hemoglobin level was held stationary. Blood regeneration was stimulated by feeding iron citrate or raw liver in relatively large amounts. In the study of the relation of iron to hemoglobin formation in the bone marrow, the methods described by Macallum were followed in making microchemical stains of the bone marrow cells. It has been shown by means of microchemical iron stains of the bone marrow cells that the iron content of the hematoblast is increased during rapid hemoglobin production in simple anemia. This fact is compatible with the work of Macallum, who believed that hemoglobin is derived from the chromatin of the hematoblast. It does not support a theory that hemoglobin is formed as a part of a circulating pigment. It is suggested that bilirubin is derived from the chromatin of body cells through the intermediary stages of the respiratory pigments, hemoglobin and cytochrome, from erythrocytes and other cells, respectively.

Intradermal Versus Subcutaneous Immunization Against Poliomyelitis. — Experiments made by Stewart and Rhoads showed that the introduction of considerable amounts of living, active poliomyelitis virus into the skin and subcutaneous tissue of monkeys protects the animals against intracerebral inoculations of similar virus material. The degree of protection conferred by intradermal injection is greater than that by subcutaneous injection. During intradermal and subcutaneous inoculations, no local or general pathologic signs were observed. The degree of protection produced by the immunization methods used is not absolute, since a percentage of the inoculated monkeys respond to intracerebral injections of highly potent virus. The serum of the animals inoculated intradermally or subcutaneously neutralized poliomyelitis virus in vitro, irrespective of the result of intracerebral inoculation, in all except one instance. The power of the serum of treated monkeys to neutralize virus in vitro is a more delicate test of immunity than is the intracerebral inoculation.

Immunity of Recovered Monkeys from Yellow Fever to African Virus.—Experiments reported on by Davis indicate that, although there are quantitative differences in virulence and minor differences in behavior, the African strain and the Brazilian strains of yellow fever virus tested are immunologically the same.

Insect Vectors of Carrion's Disease. — Experimental observations made by Noguchi et al. led them to conclude that certain phlebotomi act as insect vectors of Oroya fever and verruga peruana. The phlebotomi which have been shown quite certainly to carry *Bartonella bacilliformis* are those of the species *Phlebotomus noguchii. Phlebotumus verrucarum* is also probably a vector, while *Phlebotomus peruensis* remains doubtful in this respect.

Journal of Infectious Diseases, Chicago

44: 337-419 (May) 1929

Rickettsia-Like Organisms in Scrotal Sac of Guinea-Pigs with European Typhus. H. Pinkerton, Boston.—p. 337.
Effect of Alternating Electric Current on Tubercle Bacilli in Milk. C. M. Carpenter, Ithaca, N. Y.—p. 347.
Viability of Organism of Rocky Mountain Spotted Fever in Glycerol. A. G. King, Boston.—p. 357.
*Rheumatic Fever: 3. Skin Hypersensitiveness of Patients with Rheumatic Fever and Chronic Arthritides to Filtrates, Autolysates and Bacterial Suspensions of Streptococci. K. E. Birkhaug, New York.—p. 363.
*Skin Reactions to Filtrates and Killed Cultures of Green-Producing Cocci in Relation to Measles. W. L. Bradford, Rochester, N. Y.—p. 378.
Activity of Herpetic Virus in Mice. H. B. Andervont, Boston.—p. 383.
*Alcaligenes Organism from Blood of Three Patients with Gangrenous Appendicitis. E. Weiss, Chicago.—p. 394.
Hypersensitiveness to Diphtheria Bacilli. J. M. Neill and W. L. Fleming, Nashville, Tenn.—p. 397.
Incidence and Properties of Isohemolysins. C. M. Downs, H. P. Jones and K. Koerber, Lawrence Kan.—p. 412.
Maximum Oxygen Tolerance of Cl. Botulinum A, B and C, of Cl. Sporogenes and Cl. Welchii. K. F. Meyer, San Francisco.—p. 408.
Preparation of Specific Serums and Technic of Agglutination Test with Pasteurella Pestis Detoxified with Formaldehyde. A. Batchelder, San Francisco.—p. 403.

Skin Hypersensitiveness of Patients with Rheumatic Fever and Chronic Arthritides. — Birkhaug reports on a series of 3,114 skin tests performed on 594 persons, among whom were forty-two with active and 146 with inactive or "cured" rheumatic fever, carditis and chorea; sixty-nine with chronic infectious and degenerative arthritides, and 337 nonrheumatic controls. An excessive universal hypersensitiveness (allergy) was found among 68 per cent of patients with all types of acute rheumatic fever infection to the filtrates, autolysates and bacterial suspensions produced by the indifferent nonmethemoglobin-forming streptococcus and *S. viridans;* while only 22 per cent reacted to the filtrates and 36 per cent to the autolysates and bacterial suspensions produced by the hemolytic streptococcus. Hypersensitiveness to nonhemolytic streptococcal products is most marked among patients with active rheumatic infection (72 per cent); these persons react almost equally well with filtrates boiled for four hours (67 per cent), while 64 per cent of those in an inactive stage react to nonhemolytic streptococcal products and 25 per cent to the boiled filtrates. Only 33 per cent of patients with active and 29 per cent of those with inactive rheumatic fever react to hemolytic streptococcal products, while 25 per cent of nonrheumatic controls react to the hemolytic and 14 per cent to the nonhemolytic streptococcal products. Among a series of sixty-nine cases of chronic arthritides, fifty-three cases were due to infectious processes; 47 per cent of these patients reacted markedly to the products of both nonhemolytic and hemolytic streptococci. It appears that a nonspecific, common allergenic factor is present excessively in the bacterial products of indifferent and viridans streptococci and moderately present in solutions of hemolytic streptococci, to which patients with either acute rheumatic infections or chronic infectious arthritides react hyperergically.

Skin Reactions to Filtrates in Relation to Measles.— Ninety-six children were tested by Bradford intradermally with the broth filtrate of the Tunnicliff coccus. Of forty-three who gave a history of measles, two were positive and forty-one negative; of fifty-three who had never had measles, ten were positive and forty-three negative. One hundred and nine were tested with the Tunnicliff antigen. Of sixty-nine who had had measles, seventeen were positive and fifty-two negative; while in a series of forty with a negative history of measles, twelve were positive and twenty-eight negative. Similar results were obtained with the filtrates and with the antigens produced by *Streptococcus morbilli,* by the Duval coccus and by a stock culture of typical *Streptococcus viridans.* Reactions were more frequently negative in young infants and during the immediate convalescence from measles. Among those who had had the disease, most of the positive reactions occurred in older children and in those who had measles six months or longer previous to the time of testing. There was no apparent relationship noted among the reactions in twenty persons when each was tested to all of the various filtrates and antigens. Although the test was generally negative in persons who had had the disease, it was also generally negative in those who had never had measles. From this study, therefore, no definite relationship was found to exist between the immune and nonimmune to measles as determined by cutaneous reactions to the toxic filtrates and antigens of certain green-producing cocci, including the Tunnicliff coccus, the organism of Duval and Hibbard and *Streptococcus morbilli* of Ferry.

Alcaligenes Organism from Blood of Patients with Gangrenous Appendicitis.—An organism apparently belonging to the genus *Alcaligenes* was isolated by Weiss in three instances from the blood of patients with gangrenous appendicitis. The name *Alcaligenes appendicalis* is suggested for it.

Journal of Lab. & Clin. Medicine, St. Louis

14: 699-800 (May) 1929

*Synthalin in Treatment of Diabetes. E. P. Ralli and C. M. Guion, New York.—p. 699.
Anaphylaxis in Hemophilia. H. H. Riecker and D. E. Lichty, Ann Arbor, Mich.—p. 708.
*Effect of Calcium Chloride on Toxicity of Bile. W. C. Emerson, Detroit. —p. 714.
Action of Cold on T Wave of Electrocardiogram. H. L. Otto, New York.—p. 718.
Positive Blood Cultures in Nonspecific Ulcerative Colitis. B. B. Crohn and G. Schwartzman, New York.—p. 722.
Progress in Hay-Fever: Review of Literature of 1927 and 1928. S. M. Feinberg, Chicago.—p. 726.
Suggested Modification of Kramer-Tisdall Method for Microchemical Estimation of Ionizable Calcium in Blood Plasma. W. R. Tweedy and F. C. Koch, Chicago.—p. 747.
Accuracy Check for Metabolism Apparatus. H. M. Jones, Chicago.—p. 750.
Pressor Method for Standardization of Pituitary Extract. E. E. Swanson, Indianapolis.—p. 754.
Simple Precipitation Test for Syphilis with Small Quantities of Defibrinated Finger Blood. B. S. Kline, Cleveland.—p. 764.

Synthalin in Treatment of Diabetes.—Of the twelve cases treated with synthalin by Ralli and Guion, all showed a definite fall in the blood sugar, some more marked than others. The urine in each case remained sugar free. Urobilinogen tests on the urine have been negative in all but one case, and in that case the test was only faintly positive. The authors feel that synthalin is a step forward in the treatment of diabetes, as it marks the inception of a drug which, given by mouth, has a definite effect on the blood sugar level. In its present form, and until its toxicity is definitely established, it should be used with care and discrimination. They do not agree with Duncan that it should be used in every case of diabetes. It cannot and should not replace insulin, especially in the younger diabetic patients. They used it in patients whom they could not keep sugar free on diet alone and who were unwilling to take insulin.

Calcium Chloride on Toxicity of Bile.—Emerson asserts that calcium chloride does not have any protective effect against the toxicity of bile in the normal animal in doses varying from 10 to 52 mg. per pound of body weight. The beneficial effect of calcium chloride in obstructive jaundice as preoperative preparation would seem to be limited to its effect on the coagulation time of the blood rather than a true detoxifying action. There is nothing to suggest that calcium chloride would be beneficial in fulminating bile peritonitis.

Journal of Pharmacol. & Exper. Therap., Baltimore

36: 1-128 (May) 1929

Standardization of Female Sexual Hormone, Especially of Pure Water-Soluble Preparations (Menformon). E. Laqueur and S. E. de Jongh, Amsterdam, Holland.—p. 1.
Pharmacologic Actions of Phenylethanolamine. M. L. Tainter, San Francisco.—p. 29.
Contribution to Study of Locoism. J. F. Couch, Washington, D. C.—p. 55.
Biologic Assay of Ergot Preparations. G. L. Pattee and E. E. Nelson, Ann Arbor, Mich.—p. 85.
Saline Injections. S. Vincent and J. H. Thompson, London, Eng.—p. 107.
Crystalline Insulin: VIII. Isolation of Crystalline Insulin from Fish Islets (Cod and Pollock) and from Pig's Pancreas: Activity of Crystalline Insulin and Preparation. H. Jensen, O. Winterstein and E. M. K. Geiling, Baltimore.—p. 115.

Journal of Preventive Medicine, Chicago

3: 167-278 (May) 1929

*New Aspects of Etiology and Endemiology of Leprosy. E. L. Walker, San Francisco.—p. 167.
Acquired Immunity in Avian Malaria: I. Immunity to Superinfection. W. H. Taliaferro and L. G. Taliaferro, Chicago.—p. 197.
Id.: II. Absence of Protective Antibodies in Immunity to Superinfection. W. H. Taliaferro and L. G. Taliaferro, Chicago.—p. 209.
Bacteriologic Study of Hemolytic Streptococci from Massachusetts Outbreak of Septic Sore Throat in 1928. E. S. Robinson and E. A. Beckler, Boston.—p. 225.
*Negative Results Obtained in Attempt to Relate Tuberculosis Susceptibility or Resistance to Particular Blood Group. L. W. Parr, Beirut, Republique Libanaise.—p. 237.
Significance of Geographic and Seasonal Variations in Incidence of Poliomyelitis. W. L. Aycock, Boston.—p. 245.

Etiology and Endemiology of Leprosy.—From 607 lots of pathologic material from 194 lepers, Walker made 2,363 cultivation experiments. All of this material proved on microscopic examination to contain acid-fast bacteria. Every type of medium that has been used for the cultivation of bacteria, spirochetes or protozoa was as completely utilized as facilities would permit. The majority of the cultures remained sterile. In none of the cultures did an organism grow which was constantly identical in morphology and staining with Hansen's bacterium. On the other hand, several types of bacteria, differing from one another in morphology, staining and cultural characteristics, were cultivated repeatedly from certain lots of leprous material. These bacteria include coccoids, diphtheroids, rods and branching filaments or actinomycoids. Walker asserts that the confusion and doubt surrounding cultivation of the lepra bacterium are due largely to the pleomorphic and facultative acid-fast characters of this organism. The acid-sensitive or partly acid-fast coccoid, diphtheroid and actinomycoid organisms, which have been cultivated repeatedly from leprosy, are different stages in the life cycle of the same organism. Hansen's bacterium in leprous lesions is probably the tissue stage of this pleomorphic and facultative acid-fast lepra organism. This organism cultivable from leprosy belongs in the genus *Actinomyces*, as now constituted, and is most nearly related to the facultative acid-fast species, such as *Actinomyces asteroides* and *A. caprae*. The actinomyces of leprosy, like other pathogenic actinomyces, is a soil organism probably of wide but irregular distribution, and is only a facultative parasite. Walker concludes that leprosy probably is primarily an infection from the soil, presumably through wounds; but contagion as a possible secondary mode of dissemination is not thereby excluded. The bearing of these conclusions on methods of control of leprosy is obvious. It may ultimately be found that protection from soil-infected wounds, and proper cleansing and disinfection of contracted wounds, are at least as important as the segregation and isolation of lepers.

Negative Results in Attempt to Relate Tuberculosis Susceptibility.—The data presented by Parr on 346 cases of clinical tuberculosis in Syria, tested for blood groups, fail to support the contention that there is any relation between susceptibility to tuberculosis and any one blood group. Similarly, no resistance to tuberculosis could be demonstrated for any one of the blood groups. In a series of tuberculin and blood-grouping tests, the 450 tuberculin-positive persons fell within the blood groups in the same proportion as the entire series of 944 persons. Parr concludes that all measures for the prevention and cure of tuberculosis should be applied equally to persons irrespective of their blood groups, as persons of no one blood group appear to be significantly susceptible or particularly resistant to tuberculosis.

New England J. Medicine, Boston

200: 1071-1124 (May 23) 1929

Spinal Anesthesia Fatalities and Prevention. L. F. Sise, Boston.—p. 1071.
Advantages of Two-Stage Suprapubic Prostatectomy. A. L. Chute, Boston.—p. 1075.
Prostatectomy. W. C. Quinby, Boston.—p. 1077.
Spontaneous Passage of Large Multiple Renal Calculi: Case. J. D. Barney, Boston.—p. 1084.
Giant Renal Calculus with Symptoms on Opposite Side. O. D. Phelps, Worcester, Mass.—p. 1085.
Primary Tuberculosis of Prostate: Case. W. G. Townsend, Burlington, Vt.—p. 1085.
Prostatic Hemostatic Bag Cover. F. H. Washburn, Holden, Mass.—p. 1086.
Obstructing Papilla of Ureter: Result of Infection and Calculus. J. A. Bowen, Boston.—p. 1091.
Nonparasitic Cystic Diseases of Liver. E. J. Ottenheimer and K. Kinney, Willimantic, Conn.—p. 1093.
Hospitalization Problem in Wayland. H. L. Lombard and M. R. Giblin, Boston.—p. 1097.
Care of Eyes in Infancy. W. G. Ricker, St. Johnsbury, Vt.—p. 1101.
Reduction of Maternal Mortality. O. N. Eastman, Burlington, Vt.—p. 1101.
Importance of Vital Statistics. C. F. Dalton, Burlington, Vt.—p. 1104.
Reduction of Infant Mortality. C. K. Johnson, Burlington, Vt.—p. 1105.

200: 1125-1180 (May 30) 1929

Appetite Loss in Infancy and Childhood. J. Garland, Boston.—p. 1135.
Abdominal Cesarean Section. R. D. Margeson, Boston.—p. 1141.
Possibilities of Failure in Removal of Stones in Biliary Tract. E. L. Young, Jr., Boston.—p. 1145.
Variability of Tubercle Bacillus. S. A. Petroff, Trudeau, N. Y.—p. 1148.
Ten Year Program for Children: Progress and Plans. H. D. Chadwick, Detroit.—p. 1154.
Reflections on Sickness Insurance in Germany and Austria. C.-E. A. Winslow, New Haven, Conn.—p. 1161.

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New Jersey M. Soc. Journal, Orange

26: 289-386 (April) 1929

Religion of Third Frontal Convolution. G. K. Dickinson, Jersey City.—p. 289.
Heritage of Sanitation. B. S. Pollak, Secaucus.—p. 293.
Middle of Road. H. B. Disbrow, Lakewood.—p. 298.
Complications of Urethral Stricture: 1,244 Cases. M. F. Campbell, Montclair.—p. 300.
Plea for Routine Use of Blood Pressure Tests. F. A. Faught, Philadelphia.—p. 307.
Diagnosis of Gallbladder Disease by Means of Roentgen Rays. J. J. Quiney, Easton.—p. 311.
Treatment of Menstrual Disturbances Incidental to Puberty. A. A. Rubin, Passaic.—p. 316.
Granulocytic Aplasia of Bone Marrow of Uncertain Origin Followed by Leukemoid Blood Picture. S. Barbash and R. A. Kilduffe, Atlantic City.—p. 318.
Questionable Tonsil. S. Selinger, West New York.—p. 321.

New York State J. Medicine, New York

29: 579-652 (May 15) 1929

Profession and Medical Center. W. Darrach, New York.—p. 579.
Profession and "Cornell Pay Clinic." W. C. Klotz, New York.—p. 580.
Profession and Bellevue-Yorkville Health Demonstration. E. T. Devine, New York.—p. 582.
Profession and Life Extension Institute. E. L. Fisk, New York.—p. 584.
Standpoint of Profession. C. G. Heyd, New York.—p. 587.
Effect of Public Health Program on Interests of Private Physician. J. A. Miller, New York.—p. 591.
Control of Conception, Present and Future. R. L. Dickinson, New York.—p. 596.
Work of Medical Society of County of New York. D. Stetten, New York.—p. 603.
Sciatica: Symptom in Rapidly Fatal Sarcoma of Pelvis. C. B. Craig, New York.—p. 607.

29: 653-729 (June 1) 1929

Small Benign Tumors of Face. L. K. McCafferty and V. A. Lopez, New York.—p. 653.
*Heart Failure with Hyperthyroidism. E. C. Andrus, Baltimore.—p. 661.
Diagnosis and Treatment of Nonparalytic Strabismus. C. Berens, R. R. Losey and E. K. Stark, New York.—p. 663.
*Treatment of Acne Vulgaris with Calcium. D. Bloom, New York.—p. 668.
Clinical Application of Female Sex Hormone Test. R. T. Frank and M. A. Goldberger, New York.—p. 671.
Treatment of Malignant Lesions of Eyelids. W. L. Benedict and M. Knight-Asbury, Rochester, Minn.—p. 675.
Diabetes Mellitus in Children. H. R. Geyelin and T. T. Mackie, New York.—p. 677.
Public Health Work by County Medical Societies. G. H. Turrell, Smithtown Branch, N. Y.—p. 681.

Heart Failure with Hyperthyroidism.—In a series of eighty-six cases of hyperthyroidism reported on by Andrus, congestive heart failure occurred in 26 per cent. Under 40 years of age myocardial insufficiency with hyperthyroidism is far less common than in the later years. Moreover, when it appears in younger persons cardiac decompensation is almost invariably associated with pre-existent rheumatic or, more rarely, syphilitic heart disease. In the decades above 40 the greater frequency of failure as a complication of hyperthyroidism is associated with three factors: (1) the greater incidence of so-called adenomatous goiter, characterized by exacerbations and remission over a period of years; (2) the natural diminution of the cardiac reserve which takes place with the years beyond 40, plus the occasional coincidence of rheumatic or hypertensive cardiac disease with hyperthyroidism at this age, and (3) the coexistence in many patients of 50 and over of arteriosclerotic heart disease.

Treatment of Acne Vulgaris with Calcium.—Bloom used a 10 per cent calcium chloride solution which was sterilized by boiling and administered intravenously. In the first cases treated 5 cc. was given every third day. Soon the amount was increased to 10 cc. every second day. The intravenous injection is given slowly, the patient preferably lying down, especially during the first few injections when he is not yet accustomed to the peculiar heat sensation produced by calcium chloride, and is liable to faint. As soon as the patient complains of a sensation of heat in the face, the injection must be stopped until the heat sensation, which spreads from the face to the body and lasts about thirty seconds, disappears. The injection is then resumed. Great care should be exercised not to infiltrate the skin or the hypoderm, as even slight infiltration is very painful, and may incapacitate the patient for some time. There is also danger of necrosis when tissue is infiltrated. Most of the author's patients received about twenty injections. The disappearance of almost all papules and pustules in some cases, and marked improvement in many of them, with diminution of the oiliness of the skin and even the disappearance of comedones after a series of twenty injections or less, is striking and worth further investigation.

Philippine Islands M. Assoc. Journal, Manila

9: 127-162 (April) 1929

Sympathetic Ophthalmia: Case. A. R. Ubaldo and C. D. Ayuyao.—p. 127.
Calcium Chloride in Treatment of Gonorrheal Epididymo-Orchitis. C. R. Ylanan.—p. 128.
University of Philippines Junior Clinicians: Historical Background. J. Salcedo, Jr.—p. 132.

Public Health Reports, Washington, D. C.

44: 1133-1182 (May 10) 1929

Morbidity in Influenza Epidemic of 1928-1929. M. V. Veldee.—p. 1133.

44: 1183-1244 (May 17) 1929

Selection of Heat-Resistant Strain of Vaccine Virus (Rabbit Testicular). C. Armstrong.—p. 1183.

44: 1245-1298 (May 24) 1929

Action of Irradiated Ergosterol in Rabbit. M. I. Smith.—p. 1245.

South Carolina M. Assoc. Journal, Greenville

25: 409-440 (May) 1929

Laboratory Aids to Diagnosis. A. T. Brice, Jr., Florence.—p. 412.
Nephritis of Childhood. J. Price, Florence.—p. 420.

Tennessee State M. Assoc. Journal, Nashville

22: 1-36 (May) 1929

Responsibility of Ophthalmologists and Otolaryngologists for Conservation of Public Health. J. A. Stucky, Lexington, Ky.—p. 1.
Neurovascular Lesions of Extremities. L. B. West, Chattanooga.—p. 6.
Malignant Growths of Colon. W. D. Haggard and W. O. Floyd, Nashville.—p. 12.

Texas State J. Medicine, Fort Worth

25: 1-66 (May) 1929

European Postgraduate Proctology. C. Rosser, Dallas.—p. 9.
Carcinoma of Kidney: Case. R. S. Mallard, Fort Worth.—p. 12.
Primary Carcinoma of Liver: Four Cases. H. Hill, San Antonio.—p. 14.
Important Factors in Surgical Treatment of Benign Prostatic Obstruction. V. C. Hunt, Rochester, Minn.—p. 17.
Injuries to Ureters and Repair. J. T. Moore, Houston.—p. 21.
Surgical Treatment of Diseases of Chest. F. P. Miller, El Paso.—p. 22.
Spinal Anesthesia. W. H. Bennett, Lamesa.—p. 24.
Diagnostic Significance of Abdominal Pain. W. M. Bailey, Forney.—p. 28.
Tetanus. R. L. Harris, Houston.—p. 33.
State Hospitals as Psychiatric Training Centers. C. W. Castner, Wichita Falls.—p. 38.
Suggested Medical Treatment (Epinephrine) for Hyperthyroidism. I. L. Van Zandt, Fort Worth.—p. 40.
Vincent's Infection. J. E. Meador, Denison.—p. 42.

West Virginia M. Journal, Charleston

25: 257-320 (May) 1929

Sarcoma of Breast. C. A. Hamann, Cleveland.—p. 257.
Acute Head Traumas. P. R. Sieber, Pittsburgh.—p. 259.
Diseases of Heart Muscle. M. C. Borman, Montgomery.—p. 267.
Most Common Neurologic Conditions Encountered in General Practice. R. F. Gayle, Jr., Richmond, Va.—p. 275.
Diagnosis and Treatment of Gonococcal Infection in Female. P. Johnson, Fairmont.—p. 281.
Perforated Gastric and Duodenal Ulcer. C. B. Pride, Morgantown.—p. 283.
Health Officer and Practicing Physician. C. A. Ray, Charleston.—p. 285.

Wisconsin M. Journal, Madison

27: 195-246 (May) 1929

Intestinal Obstruction. D. Lewis, Baltimore.—p. 195.
Roentgenographic Examination of Right Upper Abdominal Quadrant. B. H. Nichols, Cleveland.—p. 199.
Chronic Nephritis: Correlation of Syndromes and Pathologic Lesions. F. D. Murphy, Milwaukee.—p. 206.
Injuries to Medial Ligamentary Structures of Knee Joint. R. M. Carter, Green Bay.—p. 215.
Knife Blade in Left Antrum: Case. J. E. Mulsow, Milwaukee.—p. 217.
Gas Anesthesia: Measurement of Positive Pressure Used. A. Littig, Milwaukee.—p. 217.
Law of Rest. F. I. Drake, Milwaukee.—p. 219.

CORRECTION

Nervous Complications Following Use of Therapeutic and Prophylactic Serums.—In THE JOURNAL, May 25, p. 1793, an abstract credited to F. Kennedy, New York, with the foregoing title, published in the *American Journal of the Medical Sciences*, Philadelphia **177:**461-608 (April) 1929, should have been credited to W. D. Ayer, Syracuse, N. Y., and titled "Poliomyelitis: Preparalytic Period with Results of Serum Therapy."

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British J. Actinotherapy, London

4: 55-74 (June) 1929

High Frequency Currents in Treatment of Disease of Skin. W. K. Sibley.—p. 57.
Action of Natural Radioactive Baths in Treatment of Disease. J. B. Burt.—p. 59.

British Medical Journal, London

1: 891-938 (May 18) 1929

Woman Damaged by Childbearing. J. Young.—p. 891.
*Diagnostic Value of Plantar Response in Insulin Coma. P. M. D. Hart and H. P. Bond.—p. 895.
Growth Recovery After Inhibition by Lead. F. S. Hammett.—p. 896.
Progress in Anesthesia from Surgeon's Standpoint. B. Hughes.—p. 897.
Apparently Spontaneous Rupture of Normal Spleen. D. H. Patey.—p. 898.
*Hematocolpos: Two Cases. A. Sharman.—p. 899.
Aleukemic Lymphatic Leukemia. J. H. G. White and J. B. Davey.—p. 900.
Concomitant Convergent Strabismus. W. O. Lodge.—p. 901.
Alopecia Areata Associated with Frontal Sinus Disease. N. Burgess.—p. 901.
Lipoma of Chest Wall. S. Ahmad.—p. 901.
Three-Loop Inguinal Hernia: Case. J. MacEwen.—p. 901.
Chronic Temporosphenoidal Abscess. R. V. Thomas.—p. 902.

Diagnostic Value of Plantar Response in Insulin Coma.—It is suggested by Hart and Bond that the state of the plantar reflexes may prove to be of great assistance in quickly distinguishing ordinary diabetic coma from that due to insulin hypoglycemia. Mild hypoglycemic attacks without coma are not accompanied by an extensor response, and it is possible that even deep insulin coma may not show the extensor phenomenon. But as diabetic coma, unless complicated by an organic pyramidal tract lesion, does not give an extensor response, it is plain that the occurrence of this physical sign in a comatose diabetic patient on insulin treatment should be accepted as evidence that the coma is due to excess of insulin, and consequently sugar (intravenous 10 per cent by preference), together with subcutaneous epinephrine, should at once be given very freely. The state is dangerous when once an extensor response has appeared, and there is little time to be lost. The quick recovery of the patient, on adequate treatment with sugar, is said to be totally unlike the very slow emergence from diabetic coma.

Hematocolpos.—Sharman's patients were aged 13 and 14 years, respectively. In both cases the cause of the retention was an imperforate hymen.

1: 939-980 (May 25) 1929

Carcinoma of Stomach. A. J. Walton.—p. 939.
Serum Treatment of Pneumococcus Pneumonias. J. G. M. Bullowa.—p. 943.
*Care of Rheumatic Children. A. D. Fordyce.—p. 946.
Hysterosalpingography in Diagnosis and Treatment of Sterility and Pelvic Disease. K. S. Statham.—p. 947.
*Production of Immunity to Tuberculosis in Man and Animals. N. Raw.—p. 950.
Calcaneal Spurs of Traumatic Origin. J. S. Warrack.—p. 951.
Fibrosarcoma of Ischium Treated with Radium. W. F. Brook.—p. 951.

Care of Rheumatic Children.—In a special outpatient clinic for rheumatic children, Fordyce has seen 540 children: 321 with apparently no permanent cardiac lesion; 119 with an apparently established cardiac lesion but with satisfactory myocardial response; twenty-five concerning whom there was uncertainty as to whether cardiac injury was permanent or not; forty-one with cardiac lesions and failing heart; nine with acute rheumatic fever, and sixteen with congenital heart deficiency. There were nine deaths from rheumatic carditis. Exclusive of cases of congenital heart deficiency and all cases of acute rheumatic fever the outcome of which hung in the balance, and giving the benefit of the doubt in prognosis to all cases of doubtfully permanent cardiac lesion of 515 cases medically recommended to the clinic as rheumatic and accepted as such, 346 patients could be regarded as suffering from no permanent heart lesion; 119 definitely had a permanent lesion but showed good response; forty-one showed evidence of failing heart muscle, and nine had died. In other words, fifty children, or 10 per cent, had died or were unlikely to survive childhood, and another 119 children, or 25 per cent, were permanently crippled to a greater or less extent. As regards the active care of the children, Fordyce lays great stress on the removal of infected tonsils. Of the 531 rheumatic children, 130 underwent tonsillectomy in a hospital and twenty-two at a school clinic; in four cases parents refused permission for operation, and in sixty-seven cases operation is desirable and probable. Thus, in 213 out of 531 children—or about 40 per cent of cases—tonsillectomy was considered advisable. In none of the patients operated on did unfavorable symptoms develop from the operation, however active the rheumatic symptoms at the time.

Production of Immunity to Tuberculosis in Man and Animals.—In Raw's opinion all cases of tuberculosis should be treated by some form of tuberculin, but this tuberculin should be prepared from attenuated, avirulent, nontoxic cultures. Pulmonary tuberculosis should be treated with tuberculin prepared from bovine cultures, and surgical tuberculosis with tuberculin from human cultures. Given in early cases of pulmonary tuberculosis, tuberculin seems to limit the spread of the infection and to enable the patient to resist the disease. In no case can its administration do the least harm, and given scientifically it has often produced wonderful results. Raw has treated a large number of cases in this way, and has never seen any untoward effects. The best results are seen only in early cases. The method of stamping out tuberculosis is to immunize children of tuberculous parents and to produce active immunity in early cases of tuberculous infection.

Journal of State Medicine, London

37: 311-372 (June) 1929

Village Settlements for Tuberculosis Workers. P. C. Varrier-Jones.—p. 311.
Municipal Housing. H. T. O'Rourke.—p. 331.
School Medical Inspection. T. F. S. Fulton.—p. 340.
Prevention, Incidence, Risks and Treatment of Maternal Miscarriage. S. Churchill.—p. 347.
*Vernes' Photometric Test for Diagnosis of Tuberculosis. R. Jordan.—p. 354.
Vaccination. C. Saunders.—p. 361.

Vernes' Photometric Test for Tuberculosis.—Jordan records her experience with this test in ninety-eight cases. Fifty of these were definitely cases of pulmonary tuberculosis with bacilli in the sputum. In only thirty-five cases of this group was the test in agreement with the clinical diagnosis. However, in the remaining fifteen cases the disease was either chronic or quiescent. Of eleven cases of pulmonary tuberculosis without bacilli in the sputum, nine responded positively to the test; one case was very chronic and the other was a beginning case with a history of a nephrectomy for tuberculosis five years before. In the "suspect" group the results were very unsatisfactory.

Lancet, London

1: 1127-1178 (June 1) 1929

Types of Septic Infection in Newly Born. H. C. Cameron.—p. 1127.
Normal and Pathologic Physiology of Stomach. V. J. Kinsella.—p. 1130.
Treatment of Malaria with Dimeplasmin. R. Green.—p. 1137.
*"Sanocrysin" Treatment of Pulmonary Tuberculosis. F. Heaf.—p. 1138.
Pharmacologic Actions of Banisterine (Harmine). J. A. Gunn.—p. 1140.
Treatment of Tuberculosis by "Benzyl Cinnamic Ester" (Method of Jacobson). H. Gainsborough and P. J. Jory.—p. 1142.

Tubercle, London

10: 401-448 (June) 1929

Plea for Reorganization of Tuberculosis Service. W. Stobie.—p. 401.
*Presence of Asbestos Fiber in Lesions of Asbestos Workers. S. R. Gloyne.—p. 404.
Allergy in Clinical Tuberculosis. F. M. Pottenger.—p. 409.

Asbestos Fibers in Lesions of Asbestos Workers.—Attention is next directed by Gloyne to the finding of asbestos in persons exposed to the risks of the trade. He says that asbestos fibers can be demonstrated in the corns from which the workers suffer, in the upper respiratory tract, in sputum in the lung, post mortem, and in animal tissues. In view of the marked prominence of foreign body giant cells in the sections from the guinea-pig, it is important that tubercle bacilli should be demonstrated in sections of the human lung in cases of pulmonary asbestosis before it is assumed that tuberculosis is present as a complicating factor.

Bulletin Médical, Paris

43: 477-506 (April 24-27) 1929

Local Treatment of Acne. P. Blume and J. Meyer.—p. 485.
*Circumscribed Cellulitis. A. Lévy-Franckel and E. Juster.—p. 486.
Acrocyanosis. F. Layani.—p. 488.
Melanoderma. M. J. Weill.—p. 493.

Circumscribed Cellulitis.—Lévy-Franckel and Juster call attention to the frequent occurrence of circumscribed cellulitis, especially in the premalleolar region and on the dorsal aspect of the feet, in connection with the wearing of high-heeled slippers with straps by women that have to walk or stand a great deal. A nodular, circumscribed, noninflammatory infiltration of the subcutaneous connective tissue, sometimes painful spontaneously at rest or only on certain movements, appears at first temporarily, to become permanent later. It is observed after muscular overwork, mostly in predisposed persons whose lymphatic system is somewhat impaired by arthritism, slight hepatic insufficiency, tuberculosis, syphilis or disturbances of the endocrine glands, and may be accompanied by edema or erythrocyanosis, or masked by adiposis. The local treatment by massage, diathermy, infra-red rays and ultraviolet rays should be combined with the treatment of the predisposing conditions (general and local).

43: 507-528 (May 1-4) 1929

*Congenital Aortic Stenosis with Multiple Emboli. Torlais, Trocmé and Dufour.—p. 515.
Rôle of Mineral Waters in Treatment of Syphilis. L. G. Blanc, H. Flurin, J. Heitz, R. Pierret and P. Salles.—p. 517.

Congenital Aortic Stenosis with Multiple Emboli.—Torlais et al. report a case of congenital aortic stenosis in a boy, aged 16, interesting because of the occurrence of multiple emboli. The patient since early infancy had never had cardiac decompensation, but his physical development was below normal. A few days after a mild attack of influenza, the patient suddenly developed a right-sided organic hemiplegia with aphasia and coma. The condition was ascribed to cerebral embolism. A few days later another embolus interrupted the circulation in the left arm (nonparalyzed) in which gangrene of the hand and of the forearm developed later. The Wassermann reaction was negative in both the patient and his parents.

Bull. et Mém. de la Soc. Méd. des Hôpitaux de Paris

53: 473-492 (April 29) 1929

Malignant Chronic Endocarditis. L. Langeron.—p. 473.
*Effect of Benzyl Cinnamate on Ulcerations and Pain. J. Jacobson.—p. 477.
Physicochemical Study of Blood Serum in Patients with High Blood Pressure. P. Merklen and J. Chaumerliac.—p. 485.

Effect of Benzyl Cinnamate on Ulcerations and Pain.—Jacobson reports on the good results obtained by him in the treatment of various kinds of ulcers with benzyl cinnamate. In four cases of ulcers reported by him in patients with lupus, leprosy, syphilitic gumma and varices, respectively, the congestion, infiltration, edema, pain and suppuration disappeared gradually, and the cicatrization of the ulcers was complete after from one to four months of treatment with benzyl cinnamate, whereas previously the same ulcers had remained refractory for a long time to all kinds of treatments. The same results were obtained by the author in experimental ulcers in guinea-pigs. The regenerative and reparative processes were considerably more rapid in guinea-pigs treated with benzyl cinnamate than in control animals.

Bulletins et Mém. de la Soc. Nat. de Chirurgie, Paris

55: 523-567 (April 27) 1929

Tenotomy on Achilles Tendon in Treatment of Pott's Fracture. H. Gaudier.—p. 524.
Extrapelvic Symptoms in Salpingitis. L. des Floris.—p. 526.
Hartmann's Operation for Cancer of Sigmoid and Rectum. G. Tisserand.—p. 528.
*Injection of Iodized Oil into Gallbladder Fistula for Roentgenologic Examination of Bile Ducts. R. C. Monod.—p. 533.
Bone Graft by Splitting of Corresponding Part of Healthy Tibia or Femur in Bone Operations on Knee. E. Juvara.—p. 541.
Median Supra-Umbilical Abdominal Incision in Operations on Bile Tract. L. Courty.—p. 556.
Peptic Ulcer Cured Without Resection of Stomach. R. Leriche.—p. 558.
Enterectomy in Hemorrhagic Infarct of Ileum by Venous Thrombosis After Appendectomy. A. Lapointe.—p. 561.

Injection of Iodized Oil into Gallbladder Fistula for Roentgenologic Examination of Bile Ducts.—In a case diagnosed as obstructive hepatic jaundice in a man, aged 28, with acholic stools, slight fever (between 37 and 38 C., or 98.6 and 100.4 F.) but without a palpable gallbladder, Monod did not find any lesions in the gallbladder, bile ducts and pancreas at laparotomy. However, cholecystostomy was performed. For fifteen days after the operation the stools remained acholic, and the bile from the fistula was highly concentrated and almost black. But roentgenograms taken after the injection of iodized oil into the gallbladder fistula showed an unimpaired functional condition of the bile tract; therefore the biliary fistula was allowed to close spontaneously, and the patient recovered completely after temporary drainage of the gallbladder. The author, after a discussion of the syndrome of obstructive hepatic jaundice in the absence of a real obstruction of the bile tract, comes to the conclusion that cholecystostomy is indicated in such cases, because it is curative (by temporary drainage of the gallbladder), allows a thorough exploration of the bile tract at laparotomy and by means of the injection of iodized oil, and does not interfere with subsequent operations on the bile tract.

Journal de Médecine de Lyon, Lyons

10: 259-300 (April 20) 1929

*Aphasic and Monoplegic Form of Migraine. L. Morenas and J. Dechaume.—p. 259.
Oscillometry in Diabetic Gangrene of Extremities. P. P. Ravault and C. Bouysset.—p. 265.
*Pyloroduodenal Stenosis of Biliary Origin. P. Delore and J. Lacroix.—p. 271.
*Evaluation of Chlorine in Blood and Cerebrospinal Fluid in Nephritis. H. Thiers.—p. 281.

Aphasic and Monoplegic Form of Migraine.—In a case of migraine reported by Morenas and Dechaume, a man, aged 66, had attacks of migraine every two or three months since the age of 29, accompanied by aphasia and jacksonian epilepsy with subsequent transient monoplegia. The hemicrania was not always on the same side and the epileptic disturbances with monoplegia occurred either in the legs or in the arms. The attacks were preceded or accompanied by various visual disturbances (amblyopia or scotomas but never diplopia); they never lasted more than half a day and always ceased after bilious vomiting. The Wassermann reaction was negative, and only slight alkalosis, bradycardia (pulse from 56 to 58), high blood pressure and slight vasomotor disturbances (cyanosis and coldness of the feet and hands) were found on physical examination. Two children of the patient had had convulsions (tetany in one, epilepsy in another). Seven days before death, the patient developed a right-sided hemiplegia (without Babinski's sign), aphasia, delirium and semicoma. All the symptoms disappeared in forty-eight hours but reappeared again a few hours before death. At necropsy only slight cerebral congestion was observed with congestion of the small vessels, several leukocytic thrombi and enlargement of the perivascular spaces with small, circumscribed hemorrhages in the perivascular sheaths. The authors consider this case as a transition form between migraine and epilepsy.

Pyloroduodenal Stenosis of Biliary Origin.—Delore and Lacroix report a fatal case of pyloroduodenal stenosis of biliary origin in a woman, aged 32, with a history of vague digestive disturbances of a few months' duration and alimentary and bilious vomiting occurring after meals (no history of biliary lithiasis). The woman was brought to the hospital in a semicomatose condition; she was delirious and gave the impression of a grave intoxication. Her temperature was 40 C. (104 F.). Albumin, but neither sugar nor acetone bodies, was found in the urine. Convulsions, especially in the face and hands, were observed, and Trousseau's and Chvostek's signs were positive; nothing abnormal was found on examination of the abdomen. The patient died in a short time from inanition and tetany, and at necropsy pyloric stenosis was found, caused by adhesive peritonitis due to pericholecystitis, which had developed around a sclerosed thickened gallbladder, full of stones. Hypertrophied lymph nodes were found in the lesser omentum near the head of the pancreas. They proved to be tuberculous on microscopic examination and might have contributed to the development of the adhesive peritonitis. The authors think the case interesting

on account of the rare occurrence at the present time of death from inanition and tetany, as well as the rare coexistence of either tetany and biliary lithiasis or biliary lithiasis and tuberculosis.

Evaluation of Chlorine in Blood and Cerebrospinal Fluid in Nephritis.—Thiers studied the chlorine content of the blood and of the cerebrospinal fluid in various forms of nephritis and came to the conclusion that, contrary to the ideas of Widal, retention of chlorine may be observed in all forms of nephritis, as well in nephritis with edema as in nephritis with azotemia or with arterial hypertension. In chlorine retention the amount of chlorine in the blood serum may be normal, increased or decreased, but the amount of chlorine in the erythrocytes is always increased and the ratio of the chlorine of the plasma to the chlorine of the erythrocytes $\left(\frac{\text{Cl plasma}}{\text{Cl erythrocytes}}\right)$ is always decreased; this constitutes the veritable sign of chlorine retention. In nephritis with azotemia caused by salt deficiency, retention of chlorine is observed in the tissues, though the amount of the chlorine in both the blood serum and the erythrocytes is decreased. Many factors (such as diuresis, dyspnea and acidosis) besides nephritis are involved in the production of chlorine retention. The chlorine content of the cerebrospinal fluid is not of great interest because it varies with the changes in the chlorine content of the blood serum. The results of these studies have a practical interest for the diet of patients with nephritis, and especially for patients with azotemia caused by salt deficiency.

Paris Médical

1: 393-408 (April 27) 1929

*Disturbances of Liver in Arensic Therapy. M. Vauthey.—p. 393.
*Disturbances of Nervous System in Typhus. P. Decourt.—p. 400.
New Method for Administering Irradiated Ergosterol. J. Huguenin.—p. 404.
*Treatment of Trachoma by High Frequency Currents. Ragain.—p. 406.

Disturbances of Liver in Arsenic Therapy.—Arsenical treatment is usually well tolerated by patients with a normal liver, but hepatic complications are often observed in patients with a history of arthritic diathesis or disturbances of the liver. Vauthey reports nine cases of various hepatic complications during the course of arsenical treatment in this kind of patients. He describes them as homogenous hepatic disturbances when the symptoms are similar to the ones observed before the arsenical treatment (such as the recurrence of hepatic colics or of attacks of asthma) and as heterogenous when latent hepatic disturbances become manifest in arthritic patients (such as hepatic congestion, dyspepsia, icterus or bilious vomiting). They seemed to occur more often during prolonged enteral administration of the trivalent arsenical compounds (such as cacodylates or arsphenamines) and may be prevented or cured by the administration of dextrose solution, liver extracts or Vichy water, before the beginning of the arsenical treatment or combined with it.

Disturbances of Nervous System in Typhus.—Decourt reports several cases of disturbances of the nervous system that occurred in patients during the course of typhus or in the convalescent period. Besides delirium, cephalalgia and the symptoms of cerebral or spinal lesions of the pyramidal tract, many disturbances of the type observed in epidemic encephalitis were observed, such as myoclonia, attacks of hiccup, contracture of the extremities, tremor of the Parkinson or choreal type, nystagmus and diplopia. Such nervous disturbances as paresthesia, various kinds of cramps, and asthenia lasted for many months after the recovery of the patients from typhus.

Treatment of Trachoma by High Frequency Currents.—Ragain reports good results in the treatment of trachoma by high frequency currents. Special wooden insulating lid retractors were used. He considers monopolar fulguration the method of choice because it is almost painless and causes but a slight local reaction, whereas diathermocoagulation and the bipolar hot spark method are painful and cause a strong local reaction (with edema of the lids, congestion of the conjuctiva and intense lacrimation), which lasts for from two to twelve days. The results (destruction of the granulations and thin, supple scars) are equally good in all three methods. Two or three days after the treatment, the local application of ointments with a copper base is prescribed to prevent the recurrence of the granulations and, if they do recur, another light fulguration treatment is indicated.

Presse Médicale, Paris

37: 585-600 (May 4) 1929

Manometric Study of Cerebrospinal Fluid in Compression of Spinal Cord by Tumor. C. Vincent and M. David.—p. 585.
*Relation Between Peptic Ulcers and Mucous Glands of Stomach. P. Cogniaux.—p. 589.

Relation Between Peptic Ulcers and Mucous Glands of Stomach.—At the anatomicopathologic examination of forty-five peptic ulcers of the stomach (forty-three specimens of which were secured at laparotomy and two at necropsy), 95 per cent of the ulcers were found by Cogniaux to be located in the area of the gastric mucosa containing only mucous glands and thus having an alkaline reaction. Only 5 per cent of the ulcers were located in the middle of the fundus glands, with acid and peptic secretion. At the edges of the ulcers all the intermediary stages were observed between intact and completely destroyed glands; the submucosa was more extensively involved than the mucosa.

37: 601-616 (May 8) 1929

Diagnosis and Treatment of Retention Jaundice. G. Parturier and M. Thalheimer.—p. 601.
Evaluation of Body Surface in Man. H. Bordier.—p. 602.
*Gangrene of Lungs in Poisoning with Sewer Gas. C. Barth.—p. 603.
Glycemia and Glycosuria in Diagnosis of Diabetes Mellitus. P. E. Morhardt.—p. 604.

Gangrene of Lungs in Poisoning with Sewer Gas.—Barth reports an unusual case of poisoning with sewer gas complicated by gangrene of the left lung in a man, aged 56, who was the victim of an accidental rupture of a sewer drain. The acute symptoms of poisoning (coma, cyanosis, Cheyne-Stokes type of respiration and cardiac weakness) disappeared quickly, but one week later there appeared symptoms of gangrene of the left lung, with the presence of anaerobes in the profuse, fetid expectoration. The condition was cured in a month by a combined treatment with autovaccines and emetine.

Policlinico, Rome

36: 151-186 (Feb. 4) 1929. Practical Section

*A Disorder Resembling Brill's Disease, Observed in Rome. A. Alessandrini.—p. 151.
Phenol is Still the Best Antiseptic for Preparation of Antirabic Vaccine, the Efficacy of Which is Thereby Increased. C. Fermi.—p. 153.
Daily Dose of Phenol Injected with Phenolated Antirabic Vaccine is Not Toxic. C. Fermi.—p. 155.
Primary and Remote Results of Extrapleural Thoracoplasty. E. Curti.—p. 156.
Pneumopericardium as a Result of Artificial Pneumothorax. E. Tappainer.—p. 161.
Hemorrhagic Effusion in Artificial Pneumothorax. G. Luzzatto-Fegiz.—p. 162.

A Disorder Resembling Brill's Disease, Observed in Rome.—Alessandrini points out that during the summer months, from May to October, and especially in August, a peculiar disorder of a febrile type is observed in Rome. The condition lasts from ten to fifteen days, runs a uniform course, and is associated with a noncontagious exanthem of a well determined nature. The ailment is seldom fatal. It was first noted in 1920. In 1927 and 1928 an increased prevalence was observed, or possibly the condition was diagnosed with greater diligence by the physicians. In 1927 thirty-six cases were reported, and in 1928 sixty-five cases. The clinical picture corresponds to that of Brill's disease, which is regarded as an attenuated form of typhus. The disorder begins suddenly, with fever, lassitude, headache, diffuse pains, exanthem and sometimes sopor or delirium. Occasionally there are manifestations from the internal organs. In not one of the cases in 1927 and 1928 could contagion by direct contact be shown. It was evident that the vehicle of infection was different from that of typhus. The cases appear sporadically in various quarters of the city, but chiefly in the outlying sections. In none of the patients admitted to the isolation hospital could lice be found in the clothing. An epidemiologic inquiry, however, revealed that in 95 per cent of the cases the disease had developed in an environment in

which there were dogs infested with ticks (*Rhipicephalus*). Some of the patients even declared that they had found ticks on their person; in fact, in two or three patients cutaneous lesions resembling tick bites were found. The close relationship between the summer exanthematic disease in Rome and typhus was shown by the fact that in most cases the Weil-Felix test was positive, especially in adults, when the blood was taken in the advanced stages of the disease or during convalescence. It is possible that the virus has undergone changes in an intermediate host different from the louse, which may explain the sporadic, noncontagious nature of the peculiar disorder that has appeared in Rome.

36: 61-116 (Feb. 15) 1929. Surgical Section

Cutaneous Grafts Derived from Scrotum. G. Canavero.—p. 61.
*Functional Relations Between Spleen and Liver. G. Montemartini. —p. 70.
Isolated Detachment of Lesser Trochanter. M. Prati.—p. 93.
*Femoral Hernia of Cecal Appendix and Its Method of Treatment. G. Zampa.—p. 107.

Functional Relations Between Spleen and Liver.—The experimental researches of Montemartini led to these conclusions: Splenectomized dogs and rabbits show a marked decrease in body weight. The nitrogen exchange, during the first months following the intervention, undergoes the following changes: increase of the total nitrogen and the urinary nitrogen, diminution of the aminonitrogen and the amino-acids, and increase of the azoturic coefficient. The exchange of carbohydrates, also, is modified, and one notes an increase of the hepatic glycogen and of alimentary hyperglycemia. The bilirubinemia does not show changes. On the basis of such experimental and clinical observations, Montemartini holds that there is a functional correlation between the spleen and the liver; that the healthy spleen, in fact, exerts a regulatory action on the various hepatic functions. More especially, the author emphasizes the need of an accurate testing of liver functioning, with particular reference to nitrogen exchange and the exchange of carbohydrates, before splenectomy is undertaken in man. He holds that if these exchanges are much altered splenectomy is contraindicated, even though it might, in some cases, improve the condition of the liver.

Femoral Hernia of Cecal Appendix and Its Method of Treatment.—Zampa states that femoral hernia of the cecal appendix is a rare occurrence. It represents nearly always an operative finding, as otherwise its diagnosis is usually impossible. It should be treated by appendectomy and by the inguinal method of Ruggi for the radical treatment of femoral hernia.

Riforma Medica, Naples

45: 179-208 (Feb. 9) 1929

Diseases Complicating and Simulating Cholecystitis. D. Giordano.—p. 179.
Fat Content of Blood on Empty Stomach. C. Cassano.—p. 181.
*Old Foci of Tubercle Bacilli in Relation to Pulmonary Anthracosis. M. Battaglia.—p. 185.
*Treatment of Diabetes by Ligation of Pancreatic Ducts. T. Lucherini. —p. 186.
*The Iefimov Test. E. Pedone.—p. 189.

Old Foci of Tubercle Bacilli in Relation to Pulmonary Anthracosis.—Battaglia's researches, extending over many years, together with a study of the literature, lead him to conclude that there is a form of pulmonary anthracosis due exclusively to chronic pulmonary tuberculosis. The black or yellowish brown pigment is produced by the tubercle bacillus and not by the slight hemorrhages that the bacillus produces in the parenchyma of the lung. The so-called anthracotic phthisis of olden times has no further reason to exist. True pulmonary anthracosis from the aspiration of coal dust or soot is rarely associated with tuberculosis, and when it does occur, the tuberculosis is an acute form in a lung that is truly anthracotic.

Treatment of Diabetes by Ligation of Pancreatic Ducts.—Lucherini states that the results secured by Goljanitzky and Smirnowa are far from convincing, since, of the three cases studied, in a severe case they were compelled to resort to insulin, while in the other two cases discontinuance of the antidiabetic diet caused the glycosuria to reappear immediately. Lucherini contends further that, since diabetes mellitus is not a simple glycosuria and its pathogenesis is complex, it is absurd to assign importance to attempts to treat it by ligation of the pancreatic ducts.

The Iefimov Test.—Pedone discusses the value of the Iefimov test for the diagnosis of animal parasites in the human intestine, with especial reference to helminthiasis. For the test, from 5 to 10 cc. of freshly voided urine is brought to the boiling point and a few drops of dilute mercuric nitrate solution (Millon's reagent) are added. A positive reaction is indicated by the more or less intense gray color that the urine assumes. A negative reaction is shown by the milky appearance that the urine presents on coming in contact with the reagent. Dr. Perretti advises mixing one volume of reagent with three volumes of dilute nitric acid and adding one volume of distilled water. Pedone does not consider the Iefimov test of much practical value. It is of still less pathognomonic value and hence of no aid either to the practitioner or to the laboratory worker who has at his disposal other means of diagnosis. He recommends the method recently demonstrated by Dr. Giulio Moretti, a member of his own institute.

45: 209-244 (Feb. 16) 1929

*Experimental Researches on Hemoclastic Reaction of D'Amato in Typhoid and in Undulant Fever. G. Bossa.—p. 211.
*Symptomatology of Ulcer of Lesser Curvature. M. Bufalini and A. Mirolli.—p. 220.
Alternating Tympanism of Wintrich, the Tracheal Sound of Williams and the Tympanism of Skoda. E. Minerbi.—p. 223.

D'Amato's Hemoclastic Reaction in Typhoid and in Undulant Fever.—Bossa's conclusions are: In rabbits experimentally sensitized to the typhoid bacillus, to the paratyphoid bacillus, or to *Brucella melitensis*, the injection of appropriate doses of the corresponding vaccine produces a hemoclastic shock similar to that described by D'Amato in patients affected by the corresponding infections and hence recommended for its diagnostic value. The phenomenon is revealed by the characteristic marked leukopenia (diminution of more than 1,000 leukocytes per cubic millimeter of blood) and is associated with all the other changes of the blood that accompany the hemoclastic reaction (inversion of the leukocyte formula, variation of the coagulability of the blood, diminution of the refractometric index of the blood serum).

Symptomatology of Ulcer of Lesser Curvature.—Bufalini and Mirolli base their observations on a series of sixty-seven cases, thirty cases with gastric location, thirty-three with duodenal location, and four parapyloric ulcers. Of thirty cases of gastric ulcer, the interval between the ingestion of food and the onset of pain ranged from thirty to sixty minutes in ten cases, from two to three hours in thirteen cases, and from four to six hours in seven cases. Of thirty-three cases of duodenal ulcer the interval varied between thirty and sixty minutes in four cases, between two and three hours in sixteen cases, and between four and six hours in twelve cases; in one case pain was absent. Of four cases of parapyloric ulcer, in one case the pain was greatest on an empty stomach; in one case pain was constant, and in the other two cases pain developed in three and four hours, respectively, after eating. In the thirty cases of gastric ulcer, the ulcer in eight cases was in the vicinity of the pylorus and in twenty-two cases it was located on the lesser curvature, usually in the upper portion. Comparing the site with the interval between eating and the onset of pain, the authors noted that the ulcers near the pylorus were all of the class in which the pain developed a short time after eating: from thirty to sixty minutes in two cases and from two to three hours in six cases, while the cases in which the pain developed very late (from four to six hours after eating) all belonged to the group located high up on the lesser curvature.

45: 245-280 (Feb. 23) 1929

Influence of Vagus Nerve and Action of Bronchopulmonary Smooth Musculature on Form of Respiration. V. Chini.—p. 247.
*Rare Syndromes of Intestinal Parasitosis: Teniasis with Appendicular and Pseudoneoplastic Syndromes. G. Ranieri.—p. 255.
Clinical Considerations in Thirty-Two Cases of Pernicious Anemia. A. M. Bonanno.—p. 256.

Teniasis with Appendicular and Pseudoneoplastic Syndromes.—Ranieri reports the case of a man, aged 37, who on admission to the clinic stated that a week previously he was

suddenly seized, at 2 o'clock in the morning, with a violent pain in the ileocecal region. The pain had continued, with some remissions, up to the time he entered the clinic. The stools were regular and vomiting had not occurred. The temperature was 37.5 C. (99.5 F.). The abdomen appeared normal in form and volume. However, a slight eminence was discovered in the region of the ileocecal projection, at which point palpation revealed an increased resistance. Deep palpation revealed a swelling of hard and elastic consistency, which was painful on pressure, which changed its position with breathing efforts, and which could be moved up and down. McBurney's point was not painful on pressure. The appendix could not be palpated. A possible diagnosis of involvement of the appendix was rejected, owing to the lack of pathognomonic signs. On examination of the feces, tapeworm ova were found, while the radiologist, using an opaque medium, demonstrated a very evident filling defect in the cecum. Possibly through the effects of the opaque medium, the patient passed, the same day, several meters of tapeworm joints. The radiologist repeated his examination and found the same filling defect as before, which gave rise to the assumption of a possible neoplasm in a tapeworm carrier. A teniafuge was then administered, whereupon many meters of tapeworm joints, together with a *Taenia saginata* scolex, were passed. Thereupon all pain ceased, the swelling disappeared, and all soreness in the ileocecal region vanished. The radiologist applied the opaque medium a third time and found, to his surprise, that the filling defect had entirely disappeared. The author stresses three points: 1. The presence of a sign or symptom, however, important, is not sufficient in itself to establish a diagnosis. 2. Examination of the feces is always a necessary corollary of the objective examination in any patient with abdominal symptoms. 3. The results of the radiologic examination should be thoroughly utilized to strengthen the clinical observations before these are accepted as constituting definite proof.

Prensa Médica Argentina, Buenos Aires

15: 1341-1380 (April 10) 1929

*Rheumatism of Menopause: Bilateral, Symmetrical, Dry "Lipo-Arthritis." R. J. Weissenbach and F. Françon.—p. 1341.
*Is There Any Interrelation Between Basal Metabolism and Blood Reaction? R. Vaccarezza, L. L. Silva, J. Alurralde and C. Griot.—p. 1350.
Lead in Treatment of Cancer. A. H. Roffo and O. Calcagno.—p. 1354.
*Angina Pectoris: Roentgen Therapy. C. Lian and R. Barrieu.—p. 1373.

Rheumatism of Menopause: Lipo-Arthritis of Knees.—Weissenbach and Françon propose the name "lipo-arthritis" for a chronic variety of dry, bilateral, symmetrical rheumatism of the knee, frequently observed at the menopause. The knee is stiff and painful, though the pain is not acute. Lipo-arthritis usually is associated with bilateral talipes valgus and genu valgum. The disease appears after either a natural or an artificial menopause. The disease appears in women ranging in age from 45 to 52; younger women who have ovarian dysfunction may complain of it. The author observed thirty patients who developed the disease after a total hysterectomy with removal of both ovaries. Amenorrhea with a syndrome of ovarian dysfunction is the predominant factor and the only element which is absolutely constant. Secondary factors are nonovarian dysendocrisiasis, especially hyperfunction or insufficiency of the thyroid, obesity and varicose veins. As to treatment, ovarian or follicular opotherapy has yielded good results.

Is There Any Interrelation Between Basal Metabolism and Blood Reaction?—Vaccarezza et al. measured the basal metabolism and the hydrogen ion concentration of 100 patients with various diseases to determine whether the conclusion of some authors, that acidosis decreases the basal metabolic rate whereas alkalosis increases it, is true. The patients remained at rest for half an hour, and the authors withdrew the blood without compressing the veins. The reading was made not later than three minutes. Of the 100 basal metabolic rates studied, forty were normal, forty-five were increased and fifteen were lowered. In fifty-two cases the hydrogen ion concentration was normal, acid in twenty and alkaline in twenty-eight.

Angina Pectoris: Roentgen Therapy.—Lian and Barrieu employ roentgen therapy in all cases of angina pectoris except in patients over 70 and in those with marked cardiac insufficiency. The arrhythmias do not contraindicate roentgen therapy. Any exacerbation of the crisis demands the discontinuance of the treatment. During the crisis of the pain, roentgen therapy is not advisable. Transthoracic diathermy will alleviate the pain and improve the coronary circulation. The authors used low voltage irradiations. The exposure time was five minutes for the first week. It should be increased five minutes every week. The entire treatment requires four weeks, sometimes five weeks.

Repertorio de Medicina y Cirugía, Bogota

20: 217-274 (May) 1928. Partial Index

*Epithelioma of Penis with Double Hydrocele. A. Vega R.—p. 224.
Tuberculosis of Kidney with Bacillary Septicemia. R. Romero A.—p. 227.

Epithelioma of Penis with Double Hydrocele.—In the case reported by Vega R. there was marked destruction of the penis, caused by an ulcerative epithelioma in a man, aged 58. The glans had completely disappeared and the destructive lesion had invaded a large part of the corpora cavernosa. It was impossible to locate the meatus. There were two ulcers on the penis. Micturition, which was painful, occurred through one of the ulcers. There were also three urinary fistulas, and a large and fluctuating tumor in the scrotum. The diagnosis was epithelioma of the penis with a probable bilateral hydrocele.

Revista Medica Cubana, Havana

40: 271-420 (March) 1929. Partial Index

*Experiences with Sicard's Method of Treatment of Varicose Veins. J. Grau y Triana and J. Govantes.—p. 318.
*Pulmonary Cavern in an Infant, Aged Six Months. O. Ortiz Machado.—p. 321.

Experiences with Sicard's Method of Treatment of Varicose Veins.—Grau y Triana and Govantes regard Sicard's method of treatment of varicose veins as very efficacious. Careful selection of the cases is necessary, however, because this form of treatment is not indicated in all cases. The authors' twelve patients, aged from 32 to 56, were poorly nourished. They did not, however, manifest intolerance to the treatment; two of the patients showed a salicylate intoxication, which lasted about forty-eight hours. It is a treatment which can be given to ambulant patients. The authors started with a 20 per cent solution of sodium salicylate to test the patient's susceptibility. The sclerosing effect is obtained with a 40 per cent solution of sodium salicylate and not more than 2 cc. should be injected at a time. The beneficial effect on the varicose ulcers and eczema is manifested before the sclerosis of the vessel is complete. If sclerosis is not produced, the pain which appears along a vessel that has been injected once does not prevent the repetition of the injection of the same vessel, two days after the first injection.

Pulmonary Cavern in an Infant, Aged Six Months.—Ortiz Machado's patient, aged 6 months, had had bronchopneumonia when he was 3 months old and gave a positive Pirquet reaction. Examination of the stomach contents showed a large number of tubercle bacilli. Roentgenography revealed a cavity in the left apex.

Siglo Médico, Madrid

83: 597-628 (April 20) 1929

Psychiatric Expert in Criminal Law. G. R. Lafora.—p. 597.
*Treatment of Facial Erysipelas with Besredka's Antivirus. E. Zapatero.—p. 600.
Etiology of Urticaria. J. M. Tomé y Bona.—p. 604.

Treatment of Facial Erysipelas with Besredka's Antivirus.—Zapatero's patient, aged 42, had previously had two severe attacks of facial erysipelas. In her third attack all the typical symptoms were manifested; the patch had invaded the left cheek, the neck and the nose and had begun to invade the right side of the face and the forehead, indicating that a severe form of the disease was developing. The application of iodine failed to stop the spread and twelve hours later the condition was more acute. The use of Besredka's antivirus on wet compresses at twelve hour intervals during the first two days, and then at twenty-four hour intervals for two more days, proved effective. Immediately after the application of the first wet compress, the fever decreased. The general condition of

the patient improved and all the symptoms disappeared. The urine (which during the first few days was scanty, concentrated and contained albumin) became abundant and normal. This polyuric crisis, the author believes, must be regarded as being characteristic of the termination of the disease and the beginning of convalescence. The patch disappeared without presenting the classic desquamation of erysipelas, as if it had been suddenly stopped in its evolution. The intensity of the symptoms and the nature of the fever indicated that it was not an abortive form of the disease. The author advises the use of Besredka's antivirus in cases of erysipelas with the hope that the good results of this treatment in his case may be confirmed.

Archiv für Psychiatrie und Nervenkrankheiten, Berlin

86: 665-840 (March 25) 1929

Histopathologic Changes in Amaurotic Family Idiocy. K. von Sántha.—p. 665.
Rôle of Products of Metabolism in Production of Psychoses. P. Büchler.—p. 677.
Patellar Reflex in Cerebral Hemiplegia and Parkinsonism. J. J. Russetzki.—p. 694.
*Familial, Epidemic Psychosis. W. Oppler.—p. 729.
*Diagnostic Significance of Takata-Ara Reaction. W. W. Michejew and W. L. Darkschewitsch.—p. 752.
*White Blood Picture in Young Feebleminded Persons. H. K. Kahle.—p. 766.
Sterilization of Patients with Mental Diseases. Kankeleit.—p. 818.

Familial, Epidemic Psychosis.—Oppler reports an instance of familial, epidemic psychosis in all the members of a large family and in some of their relatives. In most of the patients the disturbances were not severe. It was necessary, however, to place two of the patients, who had a definite psychosis, in a closed institution and one, who had marked psychic disturbances, in a hospital.

Diagnostic Significance of Takata-Ara Reaction.—Michejew and Darkschewitsch state that the Takata-Ara reaction is of value to the psychiatrist because with it he can confirm the diagnosis of paresis and because under certain conditions it can be used instead of the Wassermann reaction. In the diagnosis of meningitis in children the Takata-Ara reaction completes the globulin tests.

White Blood Picture in Young Feebleminded Persons.—In examinations of the blood of 343 young feebleminded persons, Kahle noted a high total number of white corpuscles, lymphocytosis, and initial marked neutrophilia and eosinophilia.

Beiträge zur klinischen Chirurgie, Berlin

146: 1-184 (March 9) 1929

Fractures of Elbow Joint: (Late Results: Supracondylar Fracture). E. Baumann.—p. 1.
Pathology of the Islands of Langerhans. G. Jorns.—p. 51.
*Acute Hemorrhagic Epiploitis Simulating Acute Appendicitis: Three Cases. H. Schomberg.—p. 89.
*Spasm of Biliary Passages in Diseases of Internal Female Genitalia. V. Schaefer.—p. 93.
Spontaneous Healing in Generalized Fibrous Osteodystrophy. C. T. Willich.—p. 103.
*Congenital Flexion Contracture and Backward Dislocation of Knee Joint. H. Richter.—p. 111.
Diseases of Sesamoid Bone of Inner Metatarsophalangeal Joint. K. Meffert.—p. 124.
Postoperative Motor Disturbances of Stomach: Causes of Spastic Gastro-Intestinal Occlusion. F. Reischauer.—p. 140.
Severe Hemorrhage Due to Rupture of Psoas Major. H. Maxon.—p. 179.

Acute Hemorrhagic Epiploitis.—Three cases reported by Schomberg manifested symptoms pathognomonic of appendicitis. At operation, the appendix was entirely normal in appearance, but the omentum contained a localized hemorrhagic inflammation. The etiology was obscure. All other abdominal viscera were normal; there was no history of trauma or antecedent disease, except in one case in which an epididymitis had existed several months previously. The diseased portion of the omentum was excised widely in each case, and the patients made an uneventful recovery. The author emphasizes the need for wide excision and the use of the most reliable catgut obtainable for sutures.

Gallbladder Colic Associated with Tubal Disease.—Five cases of gallbladder colic associated with tubal disease are reported by Schaefer. The symptoms were of such a nature that the tubal disease was not recognized. In one case the gallbladder contained stones but was not inflamed and appeared to be normal. Pus welling up from the pelvis directed attention to that zone and on examination a ruptured pus tube was found. In each of the remaining four cases pyosalpinx was present and removal of the affected tubes gave complete relief from the gallbladder symptoms. The author is of the opinion that a vegetative neurosis of the bile passages causes the formation of gallstones in these cases, and that these may occur not only in tubal disease but also during pregnancy and even menstruation.

Congenital Contracture of Knee.—Richter relates the case of a child that was born with a contracture of the right knee joint. The heel rested on the buttock. The leg could not be extended to more than a right angle. There was also a lateral luxation of the patella with fixation of the bone. Conservative treatment yielded a complete cure. The author regards this as a developmental anomaly probably due to mechanical causes, although in his case he was unable to elicit anything in the mother's history to account for the deformity in the child.

Deutsche medizinische Wochenschrift, Berlin

55: 643-686 (April 19) 1929

Clinical Significance of Sex Hormone Preparations. T. Heynemann.—p. 643.
Development and Treatment of Rheumatic Infection: Rheumatic-Articular Syndrome. W. H. Veil.—p. 646. C'cn.
*Etiology of Influenza. K. Kisskalt.—p. 648.
*Circulatory Disturbances in Influenza. C. Gottheil.—p. 648.
Treatment of Dystrophy with Hypophyseal Hormones. S. Wateff.—p. 649.
Ovarian Hormone, Insulin and Carbohydrate Metabolism. E. Kaufmann.—p. 650.
*Primary Carcinoma of Lung. A. Konrad and W. Franke.—p. 652.
Practical Value of Guttadiaphot Method for Diagnosis of Syphilis. V. Schilling.—p. 654.
Leptothrix Angina. A. Joseph.—p. 656.
*Herpes Zoster and Erythema Multiforme as Sequelae of Influenza. W. Joseph.—p. 657.

Etiology of Influenza.—Kisskalt points out that authorities are now inclined to limit the meaning of the term "etiology" to the morphology and the biology of micro-organisms. In investigating the etiology of influenza it is necessary that several other points should be considered. An important factor is the seasonal occurrence of influenza. The disease is contracted more often on mild, rainy winter days than in dry, cold weather. The epidemic appearance of influenza is probably due to an increase in the virulence of the bacillus, and it may occur in all seasons. The epidemic of 1918 started in the summer. In that instance the weakened condition of the people was probably an additional etiologic factor. Whether Pfeiffer's bacillus is actually the exciting cause of influenza has not been definitely determined. The fact that even the most experienced investigators did not detect it in the beginning of the epidemic speaks against this theory. The circumstance that in the later stages of the epidemic Pfeiffer's bacillus was found in most patients is not an absolute proof that it was the cause of influenza. The author points out that Pfeiffer's bacillus might have been an epidemically appearing saprophyte. Additional investigations will be necessary to give a definite decision on this question.

Circulatory Disturbances in Influenza.—Among fifty patients with influenza, Gottheil observed forty with circulatory disturbances. In former influenza epidemics, attention was called to depressions in the systolic pressure. In the diastolic pressure, however, no disturbances were observed. In testing the blood pressure of the forty patients, the author noticed a slight increase in the systolic pressure and a considerable decrease in the diastolic pressure. In several cases the amplitude was as pronounced as it is observed otherwise only in cases of aortic insufficiency. These changes in the blood pressure were influenced neither by the severity of the disease nor by the age of the patient. With the improvement of the condition, the circulatory disturbances likewise disappeared. The author assumes that the abnormal decrease in the diastolic pressure is probably due to a paralysis or to other disturbances in the capillary system.

Primary Carcinoma of Lung.—On the basis of their investigations concerning the frequency and the possible causes of primary carcinoma of the lung, Konrad and Franke came to

the following conclusions: 1. The relative as well as the absolute frequency of this disease has been increasing in recent years. 2. Among the patients with primary carcinoma of the lung, the percentage of men is much larger than that of women. It also was observed that certain races are more subject to this disease than others. In Königsberg the emigrating, eastern Jews seemed to be especially subject to primary carcinoma of the lung. 3. It was not possible to trace the increasing frequency of this disease to a single factor. Inhalation of dust, smoking, tarring of streets or certain occupations proved, on closer investigation, not to have a direct influence on the development of primary carcinoma of the lung. Concerning the therapy the author states that irradiation is only palliative.

Herpes Zoster and Erythema Multiforme as Sequelae of Influenza.—During the last influenza epidemic, Joseph noted the frequent occurrence of erythema multiforme and herpes zoster. Erythema multiforme usually developed in the beginning stage of the disease. The clinical aspects of the dermatitis were the same as when it appears alone. The process was localized on the upper and lower extremities and on the face. The fact that neurologic pains were felt long after the skin eruptions had disappeared was unusual. In several patients the pains were felt for about five weeks or longer. The author assumes that in these cases the dermatitis was probably caused by the toxins of the influenza bacillus. In the later stage of influenza the frequent occurrence of herpes zoster was noted. This disease was unusually painful. Following salicylate medication, the pain disappeared. However, the healing of the skin eruptions was comparatively slow.

Klinische Wochenschrift, Berlin

8: 721-768 (April 16) 1929

*Action and Relations of Calcium and Digitalis. E. Billigheimer.—p. 724.
*Active Immunization Against Scarlet Fever in Moscow. S. W. Korschun and A. A. Spirina.—p. 726.
*Technic of Aschheim-Zondek's Reaction for Pregnancy. E. J. Kraus.—p. 731.
Distribution of Residual Nitrogen in Blood. H. Steinitz and H. Simchowitz.—p. 732.
Constitutional Index in Women. F. H. Lorentz.—p. 734.
Endocrine Glands and Blood Pressure. F. Kisch.—p. 736.
Graphic Registration of Pulsation of Cornea. R. Thiel.—p. 738.
Relative Importance of Anatomy and Physiology as Part of Theoretical Training of Present-Day Physician. R. Fick.—p. 740.
Application of Capillary Microscopy According to Jaensch-Wittneben-Hoepfner. W. Jaensch and T. Hoepfner.—p. 741.

Action and Relations of Calcium and Digitalis.—Based on the results of his own investigations as well as on those conducted by other authorities, Billigheimer came to the conclusion that calcium and digitalis are synergic substances. While investigating the cause of the similarity of action of these two substances, the author found that both medicaments effect a stimulation of the sympathicus and through this cause a contraction of the vessels. Their action on the vagus effects a slowing of the pulse. The author asserts that a combination therapy of calcium and digitalis gives good results, especially in case of lobar pneumonia. No harmful effects were observed.

Active Immunization Against Scarlet Fever in Moscow.—Korschun and Spirina report the results of immunization against scarlet fever in Moscow during the three years from 1925 to 1928. In all, 61,820 children were vaccinated. Of these, 16,487 were immunized with formaldehyde vaccine, 12,404 with combination vaccine, 23,438 with combination vaccine and with toxin, 8,854 with toxin, and 637 with toxoid. The results of the active immunization are summed up as follows: 1. Immunization reduces the morbidity as well as the lethality of scarlet fever. 2. Immunization with large doses of toxin, according to the American method, gives results which at least equal the effects of combination vaccine with subsequent toxin injections. 3. The active element of scarlet fever vaccines is the toxin. 4. If the immunization is performed with proper care, a reaction is hardly noticeable and unpleasant complications are comparatively rare. 5. The good effects of the vaccination prove its value in the combat against scarlet fever. 6. A decrease in the immunity was observed only in children aged from 1 to 5 years; in these the vaccination was therefore repeated after one year. In older children, however, the immunity did not change for two years after the vaccination.

Technic of Aschheim-Zondek's Reaction for Pregnancy.—Aschheim-Zondek's hormone test is, according to Kraus, the most valuable aid in the early diagnosis of pregnancy. The only disadvantage of this method is the comparatively long time that is necessary for its completion. Under favorable conditions, five days is required. However, in most instances six days is necessary. The author perfected a technic which not only simplifies the test but makes it possible to complete the test in a shorter time. About four days is necessary for the development of the characteristic changes in the ovaries of the mice. If these changes cannot be detected with the naked eye, the ovaries together with the oviducts should be placed on a slide. Care should be taken that the fatty tissues and the blood have been removed. A drop of glycerin is added and a second slide is placed over the preparation. In order to prevent displacement of the slides, rubber bands are placed around both ends. The preparation is now ready to be placed under the microscope. If the reaction is negative, the follicles appear as light round structures and the ovum inside is plainly perceptible. In case of a positive reaction, the luteinized follicles and the corpus luteum appear as round structures of a dark gray. Blood dots which, on account of their central location, cannot be seen in the macroscopic examination appear as bright red centers inside the follicles. The author points out that the pressure of the slides does not destroy the histologic structure of the ovaries. This technic is advantageous, because fixation in Zenker's solution, embedding in paraffin, cutting into sections and staining are not necessary. This saves considerable time and work. The test may be completed in about four days. Concerning the effectiveness of Aschheim-Zondek's reaction, the author states that he employed it in thirty cases, and in all of these the results proved correct.

Medizinische Klinik, Berlin

25: 585-622 (April 12) 1929

Diagnosis and Treatment of Familial, Splenic Anemia. R. Mühsam.—p. 585.
Birth Rate and Death Rate in Various Districts of Berlin. K. Freudenberg.—p. 587.
Ocular and Surgical Torticollis. G. Braun.—p. 590.
Vestibular Disturbances: Their Relation to Influenza. E. Wodak.—p. 595.
Diseases of Bones. H. Coenen.—p. 596. C'en.
*Congenital Esophageal Stenosis in Child. K. H. Link.—p. 599.
Plastic Operations for Asymmetry of Nose. E. Eitner.—p. 600.
*Treatment of Sciatica with Intensive Quartz Lamp Irradiation. R. F. Weiss.—p. 600.
Testing of Extracts Used for M. T. R. (Meinecke Turbidity Reaction). H. Hecht.—p. 601.

Congenital Esophageal Stenosis in Child.—Link reports a case of esophageal stenosis in a boy, aged 6. According to the mother, the trouble dated back to early childhood. In infancy, while receiving only liquid food, the child was troubled with frequent vomiting. The mother had also noticed that he needed a comparatively long time for ingesting his food. When he was given solid food the swallowing was accompanied by peculiar spasmodic movements, and after the meal he usually had to vomit. On this account the child was given all food in a nearly fluid form. When the boy was about 6 years old, he was brought to the hospital, because even the swallowing of gruels had become difficult. The child was small, underweight and weak. The mental development was normal. Roentgenoscopy of the esophagus revealed a stricture at about the level of the ninth thoracic vertebra. The stricture was about 8 cm. long and about the width of a knitting needle. The patient was given daily dilations with esophageal bougies. The size of the bougies was gradually increased. After fourteen days it was possible to pass a comparatively large bougie, and to enter the stomach. Several days later the boy was able to eat solid food and had only occasional attacks of vomiting. Following dismissal from the hospital, the dilation was continued until the patient could eat nearly all solid food, without noticeable difficulty in swallowing, and he gained in weight.

Treatment of Sciatica with Intensive Quartz Lamp Irradiation.—It is pointed out by Weiss that irradiation is only rarely employed in sciatica because the results have generally been unsatisfactory. He asserts that his technic of irradiation gave good results in many cases. The patients should

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be told that inflammation of the skin is necessary in order to effect intensive radiation. It is harmless and the itching will cease after application of soothing powders or ointments. The method employed by the author was the following: He divides the region of the sciatic nerve into four fields. Each of these areas is irradiated on four succeeding days for from ten to twenty minutes at a distance of from 60 to 80 cm., with the surrounding skin covered. This treatment may be repeated several times. The author observed that the effects were not the same in all patients. Some cases showed favorable results, while others were not at all influenced. He states that quartz lamp irradiation is not indicated in cases in which the sciatica is a complication of some other disease, in sciatica with root symptoms or for neurotic patients. In other cases, however, it often gives good results when other therapeutic methods fail.

Wiener klinische Wochenschrift, Vienna

42: 573-604 (April 25) 1929

Fractional Saturation in Relation to Icterus. E. Mayerhofer.—p. 573.
*Quinine not an Abortifacient. A. Haberda.—p. 575.
*Thrombosis of Inferior Vena Cava. A. Feller.—p. 576.
Cardiac Disturbances in Senile Hyperthyroidism: Their Operative Treatment. F. Kaspar.—p. 580. C'en.
Development of Mixed Tumors of Skull. F. Kazda.—p. 582.
Peculiar Syndrome in Sympathetic Neurosis. K. Schuberth.—p. 585.
Rules for Application of Antidiarrheal Medicaments. A. Fröhlich.—p. 587.
*Dangers of Blood Transfusion. E. Flaum.—p. 589.
Resuscitation of the New-Born. H. Katz.—p. 590.
Treatment of Strabismus in Children. H. Lauber.—p. 591.

Quinine Not an Abortifacient.—Haberda reports the decision of the medical faculty of Vienna in a case of abortion in which quinine was the alleged abortifacient. The members of the faculty made the following statement: There is no specific medicamental abortifacient. However, it is known that some substances, in causing a general poisoning of the organism of a pregnant woman, may also affect the gravid uterus and cause the death of the embryo. Quinine does not have this effect in human beings. It increases labor pains only if they were already present. Clinical observations and experiments prove that the resting pregnant uterus is not affected by quinine. It is nevertheless often used as an abortifacient, but there is no case on record in which an abortion was actually effected. The woman, who was accused of twice causing abortion by taking quinine, had in the first instance probably not been pregnant. In the second instance abortion had actually taken place. It could not be proved, however, that it had been caused by quinine. The typical symptoms of quinine poisoning did not become manifest, and it could therefore be assumed that the abortion had not been caused by quinine.

Thrombosis of Inferior Vena Cava.—Feller reports the case of a woman, aged 62. When she was brought to the hospital, she complained of severe pains in the region above the umbilicus. She thought that these disturbances had been caused by a fall she had taken about ten weeks previously. In the morning she had vomiting spells, the vomit being dark brown. She was also troubled with constipation. Evacuation could be effected only by means of enemas; the feces were of a tarlike color. Icterus appeared and the patient became gradually weaker and died. Postmortem examination revealed a cancer of the stomach and metastases in the omentum and particularly in the liver. On the inferior vena cava, an old, partly calcified thrombosis was noted. The left renal vein was also obstructed. As a result of these obstructions a collateral circulation was formed. The inferior mesenteric vein was much dilated. The largest part of the blood passed through the portal vein. The author gives a detailed description of the collateral circulation. Reports of relatives revealed that about five years previously the patient had noticed temporarily a severe swelling and cyanosis of both legs. It is assumed that at this time the thrombosis of the inferior vena cava had developed and the collateral circulation had been formed. For the years following, this abnormality did not cause any other disturbances or complications. The author points out that other cases of thrombosis of the inferior vena cava have been reported in which the patients lived without any evident discomfort for twelve, fifteen or twenty years. The collateral circulations were usually different in each case.

Dangers of Blood Transfusion.—Flaum reports the case of a woman, aged 31, who on account of severe anemia had to undergo a blood transfusion. Several days later she developed fever and during the following weeks she had repeated attacks of chills. Examination of the blood revealed malaria parasites. The blood donor was unaware of a previous malaria infection. When he was examined a splenic tumor was found, and in the blood several isolated malaria parasites were detected. It also became known that the donor had sold blood four times during two months. Examination of the other patients showed that these had likewise contracted malaria. Therapy prevented serious complications in all four cases. The author points out that, in order to prevent such accidents, persons who act as blood donors should always undergo a careful clinical examination. He also states that if an individual gives blood too often the quality of the blood is likely to become inferior. It was found that after the fourth transfusion the number of erythrocytes was considerably reduced in the blood of the donor.

Zeitschrift für Kreislaufforschung, Dresden

21: 177-216 (April 1) 1929

*Phonogram in Auricular Fibrillation. W. F. Selenin and L. I. Fogelson.—p. 177.
*Indications for Squill Therapy. C. Dienst.—p. 185.
*Tumors of Pericardium. H. Loos.—p. 193.

Phonogram in Auricular Fibrillation.—Selenin and Fogelson believe that the inequality of the first tone in phonograms in auricular fibrillation cannot be explained either by enlargement of the heart or by an increase in its contractility. It, like the "cannon tone" in complete atrioventricular block, is probably caused by changes in the closing mechanism of the atrioventricular valves.

Indications for Squill Therapy.—According to Dienst, squill can be recommended in patients that are refractory to digitalis, as a substitute for digitalis in patients with chronic cardiac insufficiency who require prolonged treatment, and in patients who have a tendency to edema.

Tumors of Pericardium.—Loos gives the following characteristics of tumors of the pericardium: 1. They are rare. 2. They occur more frequently in men than in women. 3. Sarcomas of the pericardium and of the epicardium occur chiefly in young people. 4. Typical forms of sarcoma are most frequent.

Zentrablatt für Chirurgie, Leipzig

56: 897-960 (April 13) 1929

Intravenous Infusion of Physiologic Solution of Sodium Chloride: Infusion of Distilled Water in Uremia. F. Oehlecker.—p. 901.
Intracisternal Injection of Serum in Tetanus. A. Lehrnbecher.—p. 905.
*Simultaneous Occurrence of Appendicitis and Pyelitis During Pregnancy. E. Liek.—p. 907.
Plastic Operation for Saddle-Nose. D. Simont.—p. 910.
*New Method for Determination of Plane of Operation in Elephantiasis. S. Rosenak.—p. 912.
Technic of Nail Extension in Fractures of Femur and Tibia. B. Kienle.—p. 914.
*Tuberculosis and Sarcoma of Knee Joint. W. Jaruslawsky.—p. 915.
Results of Operations on Tissues Damaged by Roentgen Rays. O. Reimer.—p. 918.

Appendicitis and Pyelitis in Pregnancy.—Liek relates the case of a woman who in the seventh month of pregnancy developed pain in the right side of the abdomen. He thought of pyelitis and appendicitis; but in the absence of all the characteristic symptoms of appendicitis except pain, and a history of a previous attack of pyelitis, he made a diagnosis of pyelitis. On the fifth day the patient's condition suddenly changed for the worse and the classic picture of a diffuse peritonitis quickly appeared. She aborted. Operation disclosed an abscess in the Douglas pouch, and in the abscess was the appendix, containing a fecal calculus. Part of its wall was necrotic and in the center of the spot was a tiny perforation. Sixteen days later an abscess in the left inguinal region was opened. Shortly after the patient returned home on the thirty-fourth day, symptoms of ileus were manifested. Temporary improvement resulted from symptomatic treatment; on the tenth day of this illness Liek performed an enterostomy. On the thirtieth day the patient returned home. All went well for ten days, when the patient became feverish, vomited and complained of pain. The symptoms rapidly

increased in severity and a tumor was palpable in the right lower abdominal zone. On the fifth day of this attack a small abscess lying between coils of intestine was opened. No improvement followed. Fecal vomiting set in and eight hours later a second enterostomy was done. The patient felt better and all seemed well for two weeks, when she again complained of pain in the right side radiating into the leg, gastric distress and dysuria. The temperature rose to 38.8 C. (102 F.). Nineteen days after the last operation another laparotomy was performed. In the region of the linea innominata a retroperitoneal abscess was discovered. It was evacuated. The pus contained colon bacilli and many streptococci. From then on the patient began to improve. A fecal fistula developed in the laparotomy wound but eventually closed spontaneously. Complete recovery ensued.

Testing Patency of Lymph Vessels in Elephantiasis.—Rosenak describes a test which he developed for the purpose of determining whether lymph vessels are patent or not as a guide to the extent of any operative procedure to be carried out in cases of elephantiasis. He injects 1 cc. of a 1:1,000 solution of epinephrine hydrochloride subcutaneously. Soon an area of anemia appears and from this outshoots extend, white lines. These white lines are the lymph vessels, and the speed and width of their appearance are indicative of their patency. Thus it is possible to determine quite definitely the extent of the area of elephantiasis and the plane of operation.

Tuberculosis and Sarcoma of Knee Joint.—Jaruslawsky reports the case of a boy, aged 3, who was admitted to the hospital with a diagnosis of tuberculosis of the knee. A history of a previous injury of the joint, a fall, was given. Treatment consisted of five applications of roentgen rays and extension. A number of periarticular abscesses were opened and drained. Ten years later the patient returned with the history that he had fallen on the knee again and that it had become considerably swollen and painful. When the author saw the boy the pain was intense; the knee was flexed and fixed. Roentgen examination disclosed an ankylosis between the femur and the tibia. Every attempt to give relief from the pain failed. Puncture of the swelling yielded a sanguinopurulent fluid, cultures of which yielded staphylococci. Granulation tissue cells were also present. Finally it was decided to amputate the leg in the middle third of the femur. There was much destruction of bone and newly formed granulation tissue. Microscopic examination disclosed a typical giant cell sarcoma. The patient improved rapidly after the amputation. Several masses in the inguinal region were irradiated with roentgen rays. Nearly eleven months later the patient was returned to the clinic, greatly emaciated, weak and very ill. Roentgen examination showed numerous metastases in the left lung. Death occurred about two and a half weeks later. The author calls attention to the fact that the diagnosis of tumor was difficult because, even though the joint was destroyed, there was no semblance of a tumor mass in the roentgenogram, and the symptoms present, as well as their response to treatment, pointed to tuberculosis rather than to sarcoma. The rapid downward progress of the case led to the suspicion of malignant tumor and this was confirmed by the microscopic examination of the specimen.

Zentralblatt für Gynäkologie, Leipzig

53: 769-832 (March 30) 1929

Medical Ethics and Legalization of Abortion. H. Sellheim.—p. 776.
Rectal Anesthesia with Solution of Tribromethanol in Amylene Hydrate. H. Gressmann.—p. 780.
*Marked Torsion of Umbilical Cord. F. A. Wahl.—p. 783.
*Floating Test for Intact Placenta. R. Kobes.—p. 790.
*Fibromyoma of Round Ligament. G. Kleiff.—p. 795.
Radium Treatment of Adnexitis and Parametritis. K. Gries.—p. 797.
New Instrument for Dilating Cervix Uteri. J. Härtl.—p. 799.
Social Aspects of Legalization of Abortion. I. B. Levit.—p. 803.
Results of Legalization of Abortion. I. B. Levit.—p. 808.
True Intra-Uterine Extrasystole During Labor. E. C. Lurk.—p. 811.

Marked Torsion of Umbilical Cord.—Wahl reports on the spontaneous expulsion of a dead, macerated fetus weighing 810 Gm., whose umbilical cord contained 223 twists. He believes that the death of the fetus was caused by this marked torsion of the cord.

Unreliability of Floating Test for Intact Placenta.—Kobes performed the floating test for intact placenta on fourteen placentas and then examined them carefully to check the results of the test. On the basis of his observations, he states that not only intact placentas but placentas with defects larger than plums float horizontally. A positive floating test is therefore inconclusive with regard to the condition of the placenta.

Fibromyoma of Round Ligament.—Kleff describes a fibromyoma the size of an apple which he removed from the left round ligament of a woman, aged 27. The base of the tumor consisted of a pedicle as thick as a pencil and 1 cm. long which was attached to the round ligament at a point about 3 cm. from the uterus; as a result there could be no uncertainty about the fact that the fibromyoma was a tumor of the round ligament and not of the uterus.

Bratislavské Lekárske Listy, Bratislava

9: 145-216 (March) 1929

*Chorion Epithelioma of Testis. F. Pavlica.—p. 163.
*Meinecke's Turbidity Reaction in Plasma (M. P. T. R.). A. Fabian.—p. 177.
Hernia Ligamenti Lacunaris Pectinea Incarcerata. E. Holéczy.—p. 186.
Nerve Endings in Rat's Snout. J. Pekař.—p. 190.

Chorion Epithelioma of Testis.—Pavlica observed malignant chorion epithelioma in three young men of approximately the same age, namely, 26, 27 and 28; this always started from the testis and metastasized into the viscera, usually by the blood. The relations with the testis were interesting: in two cases there was congenital displacement of the testes, but the tumor occurred in only one case. The scrotum was normal in the third case. The tumors and especially the metastases were similar and identical, both macroscopically and histologically, with the tumors of the same name appearing in women. In none of these cases was a teratoma found.

Meinecke's Turbidity Reaction in Plasma.—Fabian gives statistics of the results of the Wassermann and Meinecke reactions in 13,976 cases. The results agreed in 92.1 per cent. Simultaneously he examined plasma and serum of 400 cases with Meinecke's original turbidity reaction and the Wassermann reaction. All three reactions were negative in 174 cases, positive in 162 cases, and variable in sixty cases.

Bibliotek for Læger, Copenhagen

121: 95-118 (March) 1929

*Use of Calcium as Diuretic Agent. K. O. Møller.—p. 95.

Use of Calcium as Diuretic Agent.—Møller reviews the literature on the use of calcium salts in the treatment of edemas, discussing clinical results and the action of calcium salts on the water and salt metabolism and on the acid-base balance. Calcium chloride given by mouth is assumed to cause an acidosis which leads to increased diuresis. Part of the calcium chloride administered orally is resorbed and may be regarded as acting on the fluid-binding power of the tissue colloids, decreasing it, and thus causing edemas to disappear. How this occurs is not known. The most effective treatment of edemas with calcium salts seems to be the oral administration of calcium chloride.

Hospitalstidende, Copenhagen

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Regulation of Blood Sugar in Idiopathic Steatorrheas. T. E. H. Thaysen.—p. 249.
Otogenic Cerebral Abscess in Patients with Intact Tympanic Membrane or with Cured Suppuration of Middle Ear. E. Schmiegelow.—p. 260.
*Intestinal Polyposis. H. Tønnesen.—p. 264.

Intestinal Polyposis.—Tønnesen describes four characteristic cases which, together with two cases of rectal cancer, occurred in three generations of one family. All were in men. Two of the four cases were complicated with cancer. He asserts that intestinal polyposis depends on a localized, and in more advanced cases more diffuse, glandular hyperplasia of the intestine. It is caused by chronic irritation (a combination of inflammatory processes and mechanical irritation by scybala) in connection with an hereditary disposition to irritative hyperplasia of the intestinal epithelium. In about 50 or 60 per cent of the cases the condition is complicated with cancer.

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